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ABSTRACT

Educators are placing increasing emphasis on developing literacy requirements for young children. This book reviews research on emergent literacy among preschool and kindergarten children and provides suggestions for kindergarten teachers to create instructional programs that enhance children's literacy learning and to avoid developmentally inappropriate practices. Chapter 1 of the book points out reasons for taking a fresh look at current emergent literacy programs. Chapter 2 examines linguistic features that function as cues in written language to better enable teachers to effectively scaffold children into literacy. Chapter 3 reviews research on the components of comprehension, including concepts about print, books, and written text, vocabulary, and the text structure of the narrative and expository genre. Chapter 4 reviews research on the components of phonological processing, including phonemic awareness and phonological recoding. Chapter 5 presents a review of research on children's writing in preschool and kindergarten. Chapter 6 presents suggested activities and learning strategies related to the research. Chapter 7 presents an overall summary of the research and activities with special emphasis on kindergarten and includes suggestions for kindergarten teachers. The book's two appendices list addresses of selected professional organizations, and activities and learning strategies related to California standards. (Contains 136 references.) (KB)

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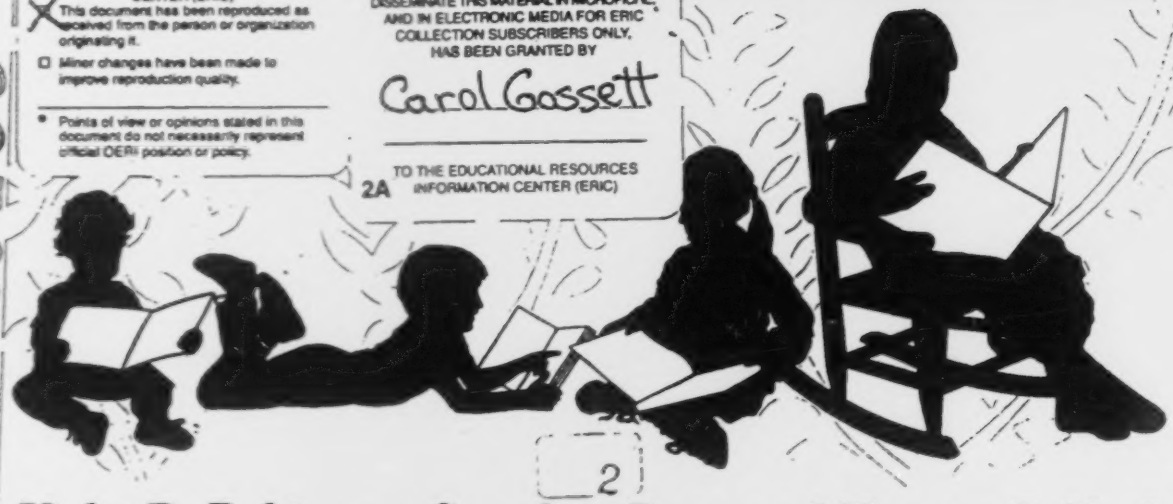

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Violet B. Robinson, Gretchen Ross, and Harriet C. Neal

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California Kindergarten Association
San Mateo, California

Violet B. Robinson, Gretchen Ross, and Harriet C. Neal

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Chapter 1

Introduction

Considerable research has been conducted during the past several decades on the development of literacy in young children. This development is now referred to as *emergent literacy* and is seen as a multifaceted process. Harris and Hodges (1995), in *The Literacy Dictionary*, define emergent literacy as the "development of the association of print with meaning that begins early in a child's life and continues until the child reaches the stage of conventional reading and writing" (p. 70). Additionally, Purcell-Gates (McGee & Purcell-Gates, 1997) suggests that there are two periods of emergent literacy: birth to five years of age, and five years to independent reading.

Much of the research on emergent literacy is reported in a recent publication by the National Research Council (Snow, Burns, & Griffin, 1998), which presents a review of the literature on learning to read, including prevention and intervention strategies for at-risk children preschool through third grade. In their Executive Summary, the National Research Council committee concluded that initial reading instruction needs to include many opportunities for children to read, getting meaning from print, and to learn about words and the "alphabetic writing system" (p. 3), including sound-symbol correspondences. The National Research Council committee also cautioned about the following three stumbling blocks that can complicate the process of learning to read.

> The first obstacle, which arises at the outset of reading acquisition, is difficulty in understanding and using the alphabetic principle—the idea that written spellings systematically represent spoken words. It is hard to comprehend connected text if word recognition is inaccurate or laborious. The second obstacle is a failure to transfer the comprehension skills of spoken language to reading and to acquire new strategies that may be specifically needed for reading. The third obstacle to reading will magnify the first two: the absence or loss of an initial motivation to read or failure to develop a mature appreciation of the rewards of reading. (pp. 4-5)

Related to these obstacles is a position paper on learning to read and write issued by the International Reading Association (IRA) and the National Association for the Education of Young Children (NAEYC) (1998), in which they stress that "it is essential and urgent to teach children to read and write competently, enabling them to achieve today's high standards of literacy" (p. 31). Responding to changing literacy demands, the position statement points out several reasons why we must take a fresh look at our emergent literacy programs. Because of the electronic world—fax, internet, electronic mail—"communications that in the past were verbal (person-to-person or via telephone)" (p. 31) now frequently utilize print documents. Literacy demands within the work force have considerably increased. This, in turn, places greater importance on developing literacy requirements for our children. Additionally, children in kindergarten now have greater variation in educational background than they had previously. Some have been in group day care for several years and others are experiencing their first large group environment with the kindergarten classroom. Thus, as the position statement says:

> What this means is that some of the kindergartners may have skills characteristic of the typical 3-year-old, while others might be functioning at the level of the typical 8-year-old. Diversity is to be expected and embraced, but it can be overwhelming when teachers are expected to pro-

> duce uniform outcomes for all with no account taken of the initial range in abilities, experiences, interests, and personalities of individual children. (p. 31)

However, the position statement also cautions against the use of inappropriate practices that occurred in the past, such as "extensive whole group instruction and intensive drill and practice on isolated skills" (p. 31). The IRA/NAEYC paper identifies a developmental continuum of five phases, preschool through third grade. The five phases are: "Awareness and Exploration [preschool]... Experimental Reading and Writing [kindergarten]...Early Reading and Writing [first grade]... Transitional Reading and Writing [second grade]...Conventional Reading and Writing [third grade]..." (pp. 40-41).

The purpose of this California Kindergarten Association publication is, first, to summarize the research findings on the kindergarten phase reported in the National Research Council report and, second, to present additional research and information on emergent literacy in preschool and kindergarten. This review will familiarize educators with the research data and related recommendations for instructing kindergarten children. This knowledge will enable kindergarten teachers to create instructional programs that enhance children's literacy learning and to avoid programs and activities that may bring about the obstacles noted by the National Research Council committee and the inappropriate practices noted in the IRA and NAEYC position paper.

Figure 1 displays the components of emergent literacy. Constituent parts are displayed under the components of comprehension, phonological process, and writing. Although the two major components are reading and writing, literacy has its foundation in oral language. However, as Sulzby and Teale (1991) note, theories and research about emergent literacy have shown that "reading, writing, and oral language develop concurrently and interrelatedly in literate environments" (p. 728). Literacy requires, however, as Cox, Fang, and Otto (1997) point out, "code switching from the oral to the literate register" (p. 38).

The review of the research in this publication focuses on preschool and kindergarten children beginning with a discussion of registers and then proceeding to the components of reading and writing. The review includes: (1) a comprehensive summary of the National Research Council (NRC) report for the components, including research on related instructional strategies; (2) a summary of additional research about the components, including research on related instructional strategies; and (3) an overall summary of 1 and 2, followed by conclusions regarding instruction in kindergarten.

The next chapter on registers will make explicit linguistic features that function as cues in written language. These cues underlie the comprehension of reading material and getting meaning from print, and, according to previous research (Cox et al., 1997), are important in relation to children's emergent literacy. Additionally, an understanding of how these cues function in the written register will enable teachers to enhance their scaffolding of children into literacy.

Chapter Three presents a review of research on the components of comprehension, which include concepts about print, books, and written text, vocabulary, and the text structure of the narrative genre (story content) and the expository genre (factual content). As will be evident, most of the research on comprehension with preschool and kindergarten children has investigated concepts of print and, in relation to genre, has been conducted using the narrative genre.

Chapter Four presents a review of research on the components of phonological processing, which includes phonemic awareness and phonological recoding. Phonemic awareness includes the following components: rhyme, alliteration, onset rime, syllables, segments, blending, and partial letter-sound recognition. Much of the research, however, has been conducted on phonemic awareness generally, rather than on individual components. The research on phonological recoding is concerned with phonetic cue reading, orthographic analogy reading, and letter-sound correspondence.

Chapter Five presents a review of research on children's writing in preschool and kindergarten. This review includes studies of children's concepts about writing, the stages of writing, writing forms,

and the spelling-writing connection.

Chapter Six presents suggested activities and learning strategies related to the research. The sources of the activities are professional journals, publications of professional organizations, and publications of the California State Department of Education.

Chapter Seven presents an overall summary of the research and activities that were reported, with special emphasis on kindergarten. The relations of the research findings to kindergarten instruction are discussed and suggestions and recommendations for kindergarten teachers emanating from research are also presented.

The chapters in this book will familiarize educators with research findings about the components of emergent literacy and related instruction in kindergarten . As noted in Figure 1, emergent literacy requires a switching of codes from the oral register to the literate register. An explanation of register and related research follow next in Chapter Two.

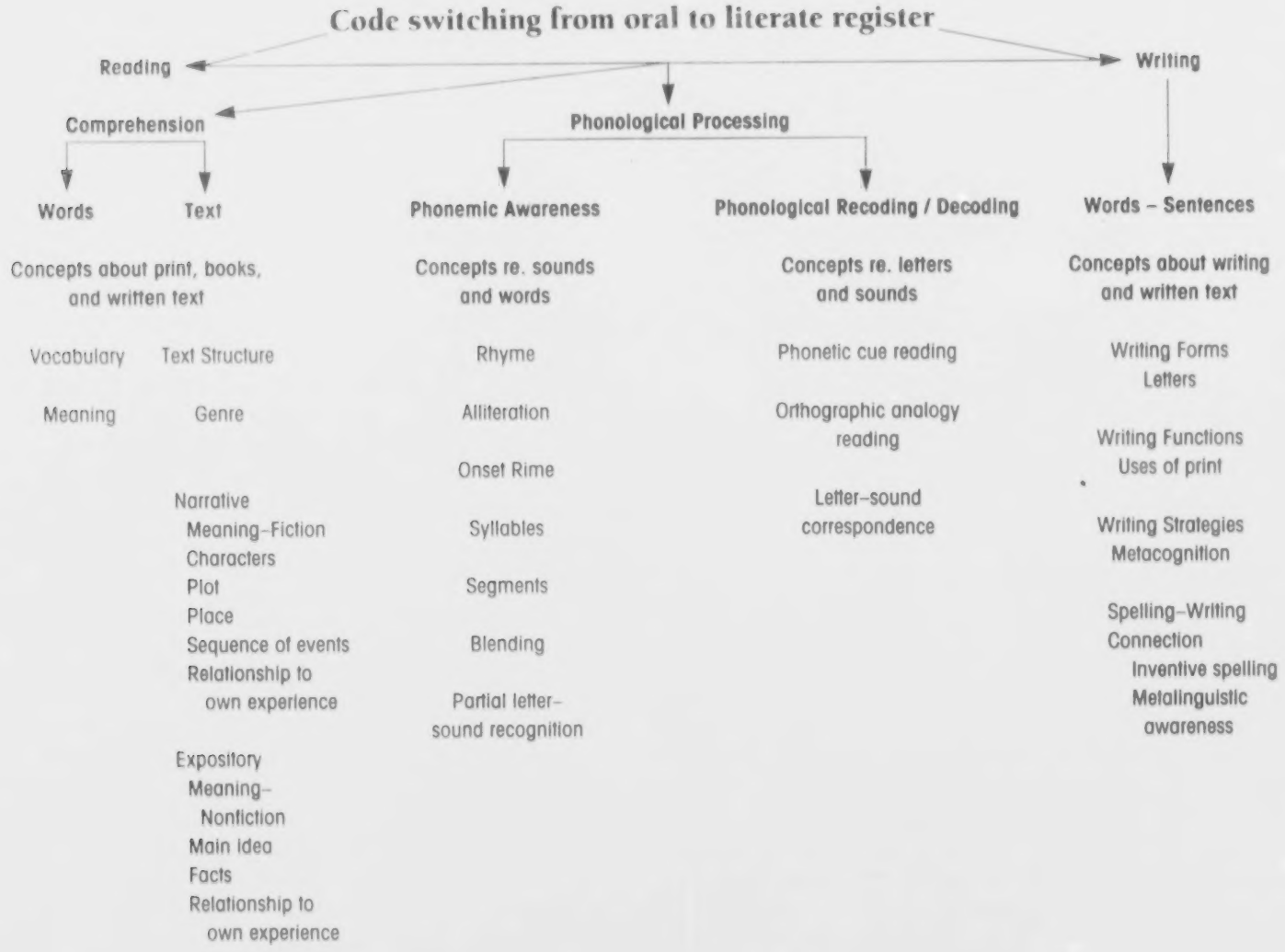

Figure 1: Components of Emergent Literacy

Chapter 2

Register From the Oral to the Written Register

Register, as indicated earlier, refers to codes of language expression. Within the oral and written registers are others, such as formal and informal registers, that vary according to context. The oral and written registers vary from each other, for written text is more than speech written down (Olson, 1977). To be coherent, written text requires linguistic cues that are not necessarily required when people are talking to each other. For example, two people speaking about an object in their presence may use the word *it* as a reference to the object. In written text, however, the name of the object would have had to be in the text previously so that the reader would know to what the *it* referred. Such pronoun reference, the pronoun and the noun to which it refers, is what Hasan (1984) calls a "cohesive device" that forms a "chain" of related words, in this case, an identity chain. As Hasan further explains, "the members of the identity chain are held together by the semantic bond of co-referentiality" (p. 205). The bond of co-reference between the name of the object, for example, *a rose*, and the pronoun *it* connects the two items, creating what Hasan calls "cohesive harmony" and thus coherence in the text. But if a child does not understand to what the *it* refers, misunderstanding can occur. Such misunderstanding occurs because the child does not grasp the co-reference, in this case a pronoun reference.

Hasan has identified other kinds of co-reference chains and other kinds of cohesive bonds with their respective chains of related words. Elaboration of these aspects of the literate register is presented below after the summary of the related research in the NRC report. While the report does not refer to *register* per se, relevant research is included in the discussions of the development of literacy in children and the process of learning to read.

NRC Report

The summaries of the NRC report's review of research is presented below in two sections, the first on research in general about the component under discussion, and the second specifically on research concerning instructional strategies related to this component.

Research Review. As children engage in interaction with others during the preschool years, they gain insights about language, both oral and written. They recognize that things have names, first believing that the name is part of the thing, but later understanding names as such. Children experience that one thing can stand for another as they use blocks to stand for airplanes or other objects. Later, after children understand that print is not like a picture, they will recognize that print stands for words and that letters stand for sounds that make up words. Language then becomes more of an "object of thought," in which children gain understanding of "the nature of word, sentence, paragraph, and text structures, and the sorts of thinking and devices that hold them together" (p. 45). During this time, children gain control of the word order of English as their sentences increase in the number of words and relative syntactical complexity. Children's growth in oral language and in familiarity with written text is significantly enhanced by adults reading to children and interacting with them about the written text. Children go from just naming objects in the pictures to talking about more abstract ideas and dealing with content not in the immediate context. They repeat words and phrases from stories and later, especially 5-year-olds, engage in pretend reading of stories. At first the pretend reading is an oral telling that follows the pictures page by page. As these children continue to hear stories, their oral pretend reading becomes more like the language of written text and their focus is on the print more than on the

pictures. Through hearing stories and interacting about the content, children become familiar with written text; in other words, they become familiar with the literate register. Along with this growth also comes the development of metalinguistic skills that enable children to think and talk about words and language.

Not all children, though, experience this introduction to written text and the subsequent literacy learning. The NRC report notes that considerable research reveals that children from lower socioeconomic status (SES), poverty backgrounds do not have the same literacy experiences as middle class children who have books in the home and whose parents regularly read to them. Low-SES children do encounter print in the environment, but what is needed is the regular experience of adults reading to them and interacting with them about the content. The NRC report states:

> Children who are dependent on schooling for literacy, or who have spent four or more years without rich support for literacy, will tend to show patterns more like younger children. However, when such children are asked or enticed into doing tasks such as "reading your own way" or "writing your own way," they do respond in interpretable ways rather than showing no knowledge. (p. 69)

One of the effects of the research on story reading and children's introduction to the literate register was that schools initiated family literacy programs as a means of enabling low-SES children to experience and gain access to the literate register. The NRC review of research on these programs and other instructional strategies follows next.

Research Review on Instructional Strategies. The NRC report notes that, of the many types of family literacy programs, the most successful are those that were designed in relation to the specific needs of the population they serve. Citing a synthesis of research, the report states that "documented research consistently supports the finding that participants in family literacy programs are benefited by increased positive literacy interactions in the home between parent and child as a correlate of their participation" (p. 147). The report cautions, however, that only moderate success was achieved by those programs that were not working with the schools, in this case preschool centers.

Research also reveals the importance of interactive story reading in kindergarten classrooms. Children gain knowledge of the literate register when teachers ask questions about the literate structure and also stimulate children to ask questions. One study investigated kindergarten teachers' reading of three types of books: storybooks, science texts, and easy-to-read picture books. As the teachers read these books aloud, they consistently changed their approaches to the texts, including language. With the storybook, the teachers discussed the author and the story characters and stimulated children's predictions and reflections about story events. With the information books, the teachers focused on concepts and vocabulary and provided related activities to facilitate understanding of the content. With the easy-to-read picture books, the teachers focused the children's attention on print and words. As the teachers changed the ways they shared these books, they introduced children to different genres in the literate register and to related language structures and tone.

Kindergarten children also benefit from repeated readings of stories and from the use of predictable books. With such repetition, children become familiar with the literate register and engage in it as they predict text features. Repeated readings often are followed by children spontaneously engaging in pretend reading of the familiar story, as many children have done with *Brown Bear, Brown Bear, What Do You See?* by Bill Martin, Jr. (1983). As children pretend read, they are engaging in the literate register.

Children often enact stories in dramatic play, creating their own "scripts" (p.183) and using the literate register language. Research reveals that the time scheduled for dramatic play needs to be 20 to 30 minutes.

This NRC review of research, although not specified as being concerned with register, nevertheless indicates the importance of code switching in emergent literacy. Additional research directly concerned with register is reported below after further explanation of cohesive devices and bonds.

Additional Research and Information

Recall that the written register includes linguistic cues or devices, which are not necessarily part of the oral register and with which children, especially low-SES youngsters, may not be familiar when they come to kindergarten. Such unfamiliarity may create misunderstanding and lack of comprehension of reading material, for these devices make connections or bonds between items in the text. One of these bonds, as discussed earlier, is the co-reference between a noun and a pronoun, as in the example of *a rose* and the pronoun *it*. This co-reference establishes identity, an identity chain of words that creates coherence and what Hasan (1984) called "cohesive harmony."

The co-reference cohesive bond, however, includes more than the pronoun reference identity chain. Other co-reference identity chains are formed by the definite article, *the*, as in *A boy and a girl...The girl...*, and similarly with the demonstratives *this, that, these, those*. Comparatives also may function as co-reference cohesive chains; for example, *smaller* or *larger* refers to something else in the text. As noted earlier, if a child does not grasp the co-reference, misunderstanding may occur.

A second cohesive bond is that of co-classification in which similarity chains of words are formed, that is, words referring to items that belong to the same class. Such similarity chains may be formed nominally, as in *apple* and *fruit*, but they also may be verb formed as in Hasan's example "*My husband plays cello. My son does, too*" (p. 186). As Hasan explains, "The two events belong to the same class—are related through co-classification—they are two distinct members of that class" (p. 187).

A third type of cohesive bond is that of co-extension in which lexical items are tied by similarity chains that create cohesiveness. These similarity chains include synonyms or antonyms or repetition, as in Hasan's (1984) example: "leave depart," "leave arrive," and "leave, leaving, left" (p. 202). Hasan further explains that co-extension also includes similarity chains concerning "equivalence [as in] the *sailor* was their *daddy*, naming [as in] the *dog* was called *Toto*, and semblance [as in] the *deck* was like a *pool* " (p. 202). These bonds provide references, repetitions, and redundancies in discourse that create cohesive harmony, cohesion among the parts of the discourse.

These bonds provide cohesive options in making the parts of discourse "hang" together. The meaning derived from these bonds between parts of the discourse underlie reading comprehension of stories or other written material. As mentioned earlier, if the child does not understand the co-reference between noun and pronoun, then understanding of the story is impaired. The importance of these cohesive options in relation to children's learning is elaborated further in the research review that follows.

Research Review. Cox, Fang, and Otto (1997) report that previous research with children from first through fifth grade has revealed a significant, positive relationship between the use of cohesive options and literacy development. Previous research has revealed that children from lower socioeconomic backgrounds have difficulty switching from the oral to the literate code. If, as mentioned earlier, literacy requires code switching, what cohesive options do young children bring to learning to read and write? Cox et al. investigated this aspect of emergent literacy, conducting research with low-SES and middle-class 4- and 5-year-old children.

Two research tasks were administered. The first task required the children to tell about something they recently experienced (the "oral register monologue") and then to dictate what they had just said as a story for others (the "literate register monologue"). Having children tell about an experience (the oral register monologue) would not be an unusual task, but the literate register monologue included some different dimensions, as Cox et al. explain:

> The request for a retelling of the oral story as one written for others defined a new context in terms of tenor (audience) and mode while allowing the field (topic) to be constant and, so, implicitly requested a shift from oral to literate registers (or codes). In order to comply, the child must recognize the change in context, address the difference in audience comprehension needs (albeit intuitively), and be sufficiently familiar with the associated register to make appropriate choices and adaptations to the cohesive structure. (p. 41)

In the second research task, the children were asked to pretend read two familiar storybooks, and Sulzby's (1985) scale of emergent reading, Categories

of Storybook Reading, was used for scoring the responses. The categories are depicted in Figure 2.

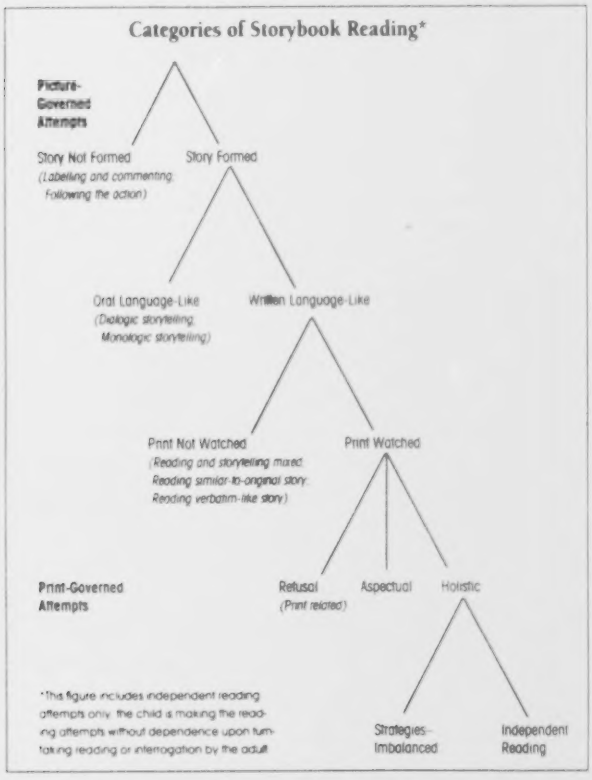

Figure 2 – Tree structure of categories of classification scheme for emergent reading of favorite storybooks. From Sulzby, E. (1985). Children's emergent reading of favorite storybooks: A developmental study. *Reading Research Quarterly, 20*, 458-481. Reprinted with permission of Elizabeth Sulzby and the International Reading Association. All rights reserved.

> Note: Under Print-Governed Attempts the term *refusal* refers to instances when children now focus on print rather than on pictures as previously and indicate that they cannot read; the term *aspectual* refers to children now attending to aspects of the print, focusing on some aspects and not attending to other aspects; the term *wholistic* refers to children now reading more competently from print, albeit with levels of competence.

Significant differences were found between income levels, with, as Cox et al. report, the data revealing that "the middle-income children used more literate register cohesive harmony and fewer noncohesive options than did low-income children in their literate register texts" (p. 43). The low-SES children tended not to change codes. These findings indicate, as Cox et al. point out, "that low-income children's familiarity with oral context cohesive choices continued to dominate their literate register attempts" (p. 45).

No significant differences were found between income groups in their use of cohesive and noncohesive options in the oral register. All the children used more cohesive options in their oral register than in their dictated literate register, as was expected since the literate register is less familiar to preschool children.

The data analysis of the Categories of Storybook Reading established three groups of emergent literacy: "no story, oral-like, and written-like/print governed" (p. 40). The data analyses for these three groups on the *dictation as a story for others task* revealed significant differences. In this dictation task, the written-like/print governed group used more appropriate cohesive options and fewer noncohesive choices than the other two groups. This group of children, then, could use linguistic devices, for example, co-reference, not only in their pretend reading of a familiar story but also in material they created and dictated for writing.

The strong, significant findings of this study, as Cox et al. conclude, reflect the positive effects of children being exposed to the literate register through experiences with books. The researchers further conclude that "familiarity with complex literate register cohesive options is important:...It is a vital aspect of English literacy development, though one that traditional instruction seems not to adequately foster..." (p. 50). Their familiarity with the literate register enables children, mostly middle-SES, to get meaning from print. Low-SES children's lack of familiarity with the literate register creates a lack in comprehending written text. Cox et al. also suggest that the developmental patterns they observed from the oral-like to written-like category (see Categories of Storybook Reading) would "seem useful in assessing, documenting, and scaffolding young children into literacy" (p. 52). (These instructional points will be addressed further in the section below on related instruction and later in the section on comprehension.)

Using the same oral-telling and dictation tasks as in the previous study, Fang and Cox (1999) further examined preschool children's use of the literate register and cohesive options in relation to their

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metacognitive expressions when engaged in the dictation task. As noted before, the dictation task requires the child, in effect, to distinguish between the oral and written renditions, between the oral and written registers. Following are examples of the metacognitive comments from this sample: "Now what do I do? Let me think; This is about my field trip;...Did I already say that?" (p. 179).

On the basis of Sulzby's scale, the following three groups were identified within the 44 subject sample: "picture governed: no story; picture governed: oral-like; and picture governed: written-like" (p. 177). Sixty-eight percent of the sample produced some metacognitive comments, exhibiting "emergent literacy-related metacognition" (p. 181). The 14 children who did not make any metacognitive comments were in either the picture governed: no story group or the picture governed: oral-like group. The picture governed, written-like group scored significantly higher than the other two groups on metacognition and on cohesive harmony; there was no significant difference between the two other groups on these two measures. The researchers found a significant correlation between cohesive harmony and metacognition. The results also showed a significant difference between the emergent reading levels and cohesive harmony, which, as Fang and Cox point out, "means that there were statistically significant differences in the quality of autonomous texts produced by the three emergent reading groups" (p. 181). (The results about the quality of the dictated texts will be discussed in the chapter on writing.) The researchers conclude:

> In the final analysis, given the study's findings, it is important that school and parents strive to provide children with sample opportunities to interact with language in meaningful and communicative contexts, while, at the same time, encouraging them to reflect upon and explore how language works to accomplish particular functions within particular sociocultural settings. (p. 183)

Elster (1994), conducting research with an adaptation of Sulzby's scale, examined the strategies a sample of 36 Head Start, 4- to five-year-old children used as they were pretend reading familiar stories (narrative text). The coding scheme used in this research was similar to Sulzby's and consisted of the following: *Nonnarrative talk*...Labeling and commenting...Following the action...Oral dialogue [with the adult]...*Oral-like narrative*...Oral language monologue...*Written-like narrative*...Written-language similar...Written-language verbatim [using the story language close to verbatim]...*Print-governed attempts*...Attention to print...*Other categories*... Refusals to read...Metalinguistic comments...Other" (p. 417). The data revealed that all of the readings except one were governed by pictures rather than by print. The children used a variety of strategies in their readings of the pictures, including both talk and reading strategies. Although as children used more narrative strategies, both oral-like and written-like, they did not drop their use of nonnarrative strategies, such as labeling, which indicates that, as children grow in emergent literacy, they develop a repertoire of strategies. Elster also found a relationship between the type of strategies children used and the type of storybooks, with the latter affecting shifts from narrative to nonnarrative and vice versa. With books that drew attention to the pictures, children tended to use more nonnarrative strategies, such as labeling and following the action of the pictures, but with predictable books that drew upon memory, children tended to use narrative strategies. This finding, according to Elster, seems to contradict other research with kindergarten children that indicated the positive use of "simple picture-caption books in advancing the level of emergent reading" (p. 415). But Elster also advised that different types of books can be used to facilitate children's transitions from one place to another in the emergent literacy process. In a later study Elster (1998), commenting on this seeming contradiction, states:

> These findings highlight reading as a transaction between particular texts and particular readers at particular moments in development. While books with strong story structures seem to support children's advancement from labeling and commenting into narrative-type readings, picture-phrase books seem to support children's advancement from picture-governed into print-governed reading strategies. (p. 46)

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This statement indicates a possible type of scaffolding, where teachers can use different types of books to help children gain strategies of the oral and literate registers. However, as indicated earlier in the NRC review, while predicable books draw upon children's memory, some books such as *Brown Bear, Brown Bear, What Do You See?* (Martin, 1986), evoke children's use of both memory and pictures.

In his later study, Elster (1998) examined the effects of text features on Head Start 5-year-old children's emergent literacy and on the way teachers conducted shared reading of three familiar storybooks. The features studied were the "text language, content, and text-picture relationships" (p. 49). The data analysis included the coding scheme Elster used in his previous study reported above. The results revealed that the pretend readings varied across the three texts, even though they were all narrative. The readings of two stories were in the oral-like narrative category and the other was in the nonnarrative category. The analysis revealed that for all three books the following text features were included in the pretend readings: "repeated language patterns.... content that is in pictures...[and the story parts] story conflict and climax" (p. 59). Other story parts include the setting and resolution of conflict, which were included in the pretend reading to a much lesser extent than conflict and climax. The finding that children remembered and included story conflicts more than story resolutions suggests, as Elster states: "that what gets read during emergent reading can depend on the salience of the language and content [as in The Three Billy Goats story] for children, a factor that may vary individually and developmentally" (p. 61).

The combination of text features also affects pretend reading. For example, in the reading of *The Three Billy Goats Gruff* (Galdone, 1973), the dramatic pictures combined with the conflict statements, especially those of the troll, outweighed the effects of the repeated language in the story.

The repetitive structure of that story, though, affected the interaction of teachers and children in shared reading, with greater participation by the children as they said the repeated segments. The participation of teachers and children in shared reading varied according to features of the texts, with more or less text-related talk, with more or less story reading by the children, and with more or less nontext talk, that is, talk stimulated by the content but not using any of the text itself.

Elster concludes that text features make a difference in children's emergent literacy and in teacher-led shared reading. He states that "several features of story book content and language do stand out as consistently fostering emergent reading performance in more complete and literary ways: content supported by pictures, repeated language patterns, and salient story elements" (p. 66).

Much of the research on emergent literacy involves pretend reading of storybooks, with relatively little involvement of informational books. Pappas (1993) identifies a difference in the two types of text, pointing out that the structure of stories (narrative) involves co-reference as characters and related events are depicted; whereas the structure of information (expository) texts involves co-classification in which the information item is a member of a class. According to a prevailing assumption regarding emergent literacy, as Pappas notes, the narrative is considered to be primary in children's grasp of the literate register; in other words, the assumption is that children first need to have many experiences with stories before they can grasp expository text. To test this assumption, Pappas conducted a study with 20 suburban kindergarten children, examining their use of co-reference in pretend reading of narrative text (stories) and their use of co-classification related to expository (informational) text. The results indicated that, as the children progressed in working with the originally unfamiliar texts, they were successful in using co-reference and co-classification. Ambiguities occurred in the first readings of the story when the definite article *the* was used inappropriately and when more characters were introduced in the story, creating difficulty in correctly making references to them. Ambiguities occurred in the first readings of the expository text for two children when they began their pretend reading as a story and considered the topic or class, in this case squirrels, as a character of the story. Another ambiguity occurred when children referred to something in the pictures of the expository book, using the demonstrative, personal pronouns, and the definite article. The ambiguities noted in the pretend readings of both the narra-

tive and expository books were gone by the second and third readings, indicating that kindergarten children can function in both genres of the literate register. Pappas states: "Thus, they [children] are just as successful in reenacting or taking on the discourse properties of the information books as they are of stories" (p. 125). Additionally, the children showed vocabulary growth from both genres. The expository books were the children's favorites, and they could distinguish the difference in functions between the two genres, as when one child said that an expository book "teaches about the squirrels" (p. 126). Pappas states that exposing young children to both stories and information books will eliminate the "gap" between the genres that, according to research, children in other grades now experience.

Research Review on Instructional Strategies. Pappas and Brown (1989) describe a process of scaffolding where after the adult, in this case the experimenter, read a picture book, the kindergarten child had a turn to pretend read the story. The same story was read by the adult and the child on three successive days, and these repeated readings resulted in an internal scaffolding in which "children tackle the book language of the storybook genre" (p. 106). The subsequent readings enabled the child to change earlier wordings, for example, going from "There once was" to "Once upon a time far far away" (p. 107). This "self-regulation" is an instance of internal scaffolding. From the repeated readings, children also learned patterns of words used in the literate register, expressions such as "day after day" (p. 109).

Learning the language of the written register was investigated by Purcell-Gates, McIntyre, and Freppon (1995) in a comparative analysis of data from previous studies with low-SES children who were randomly selected from three skills-based classrooms and three whole language classrooms (hereafter referred to as the skills-based and whole language groups). The data analyses covered a two-year period that began in kindergarten and continued through the first grade. The analyses included a comparison of results from the two groups at the beginning of kindergarten and at the end of first grade. These results were then compared with the scores at the beginning of kindergarten of a sample of mostly middle-class children, all of whom had been well read to by their parents throughout the years before kindergarten. (Hereafter this group is referred to as the well-read-to group.)

The assessment, which included 15 features, consisted of the children recounting an interesting recent event (oral register) and then pretend reading a wordless picture book (the written register). The assessment features included the use of participles; adjectives; adverbs; phrases; clauses; series; direct quotations; and words, phrases, and word order used in literary text that are not common in speaking. The data revealed that the skills-based and whole language groups did not differ in either the oral or written registers at the beginning of kindergarten but that they both differed from the well-read-to group, which scored significantly higher than the other groups. At the end of first grade, both the skills-based and whole language groups still scored significantly lower than the well-read-to group kindergarten scores on the oral register, but, on the written register, there was no significant difference between the well-read-to group kindergarten scores and the scores of the skills-based and whole language groups. The analysis comparing the skills-based and whole language groups at the end of first grade revealed that they did not differ in the oral register but did differ significantly in the written register and in the amount of gain in that register, with the whole language group performing higher than the skills-based group on the two measures. Purcell-Gates et al. conclude that their results indicate that children who come to school with relatively little experience with the literate register "can acquire this knowledge through experiences with books in school. Furthermore, these results suggest that different beginning literacy programs can differentially affect the extent of this knowledge" (p. 677).

Other research also indicates differential effects from differences in instructional programs concerned with emergent literacy. Neuman (1999) conducted a large, experimental study with 400 preschool subjects in the intervention treatment groups and 100 preschool subjects in the control groups. The children were 3- and 4-year-olds from low-SES families in the greater metropolitan area in and around Philadelphia. A follow-up study was conducted when the 4-year-olds were in kindergarten. The treatment

subjects were randomly selected from 337 nonprofit child care centers participating in the Books Aloud program, an intervention program which "flooded" the centers with children's books at a ratio of five books per child for almost 18,000 children, ages infancy to 5-year-olds. The control subjects were randomly selected from comparable centers that were not participating in the Books Aloud program. The Books Aloud preschool staffs received training regarding effective techniques of reading aloud to children and varied ways to extend the story, including integration with other curricular areas. The emphasis of the story extenders was "to create greater meaning for children" (p. 295). The pretest and posttest included, in addition to the Peabody Picture Vocabulary Test, assessment of the children's knowledge of environmental print, letter names, concepts of print, concepts of writing, and concepts of narrative. In the narrative assessment, children were asked to pretend read a wordless picture book. Scoring of the assessment protocols were based on the following factors of written language:

> Local structure (1 = prenarrative labeling of pictures; 2 = describing pictures and showing events; 3 = inferring relations between situations that are not visible on the printed page); and global structure (1 = no causal relations between events; 2 = chaining events in a temporal series such as "and then"; 3 + overall action-structure with thematic coherence) (p. 292).

On the posttest the 3- and 4-year-old treatment children were superior to the control group on all measures, with significant differences on the following tests: concepts of print, concepts of narrative, concepts of writing, and letter name knowledge. On the follow-up posttest given in kindergarten, in which the letter name knowledge assessment was extended to all 26 letters, the treatment children maintained superiority to the control group on all measures, with significant differences on the following: knowledge of upper and lower case letter names, concepts of writing, rhyming, and alliteration. The Books Aloud program, then, made a difference in children's literacy learning, and Neuman formulated the following equation: ">physical access to books + >verbal interaction around literacy + >time spent reading and relating to books = >reading and writing development" (p. 302). In conclusion this researcher stated: "The physical placement of books in close proximity to children is critical for early literacy" (p. 306).

Adult interaction about literacy was further investigated by Allison and Watson (1994), who studied the effects on children's emergent literacy of the ways teachers and parents interact while they are reading stories (narrative) to kindergarten children. Both the parents and teachers in this sample regularly read to the children. The researchers examined the adult interaction for the following cognitive demands: "Low Cognitive Demand—label, observe, demonstrate; High Cognitive Demand—sequence, reproduce, describe, infer, classify, similarities/differences, evaluate, cause-effect, generalize, conclude, propose alternatives, transform, resolve conflicts" (p. 62).

Two kindergarten teachers participated in the study. The parents read an unfamiliar storybook to the child five times; later the teacher read the same story to the child in a one-on-one setting in the classroom. Then the child pretend read the story to the experimenter, who used an adaptation of Sulzby's scale in scoring the results. The majority of the children performed at the picture reading level and told coherent stories, using some narrative language. The data also revealed that two factors predicted the emergent literacy levels: the teachers' interactive style and the age at which the parents started reading to their children. The teachers, except for two who just read the stories verbatim, elicited more cognitive demands than the parents, and most of the teachers' demands were high rather than low. Teachers also appeared to engage in scaffolding in relation to the child's level of emergent literacy. The researchers noted that the teachers, because they work with children at different developmental levels, were able to adapt their interactions accordingly.

Although the parents' interactions had fewer cognitive demands than those of the teachers, the fact that these parents began reading to their children from birth to three months of age was an important factor in the development of their children's literacy. The parents provided consistent experience with the literate register that enabled children to "experience the motives, goals, and conditions of reading" (p. 68). The researchers further conclude that "the storybook

reading experience, regardless of the amount and type of cognitive demands parents elicit from their child, provides an activity fundamental to the development of their children's emergent literacy skills" (pp. 68-69).

Additional research confirms the importance of parents reading to children. Family literacy, child care, and maternal education were investigated by Christian, Morrison, and Bryant (1998) as predictable sources of children's academic achievement upon entering kindergarten. The sample was 538 kindergarten children enrolled in 55 classrooms in a public school system. Parents filled out questionnaires that included a family literacy scale. The children were administered tests to determine the following: receptive vocabulary, letter recognition, reading recognition, mathematics, and general information. They were also tested for IQ, which was one of the predictor sources.

The results revealed that family literacy was associated with the following academic skills: reading achievement, verbal achievement, general information, and alphabet recognition. Maternal education was associated with verbal achievement and general education. Child care and maternal education were associated with math achievement. The data also revealed that children of a group of parents who were less educated but who scored high on the family literacy scale scored higher than children from a group of better educated parents who scored low on the family literacy scale. The researchers concluded: "The family literacy environment emerged as a powerful predictor of children's academic skills in this investigation, having positive associations with four of five outcome measures" (p. 515).

Bus, IJzendoorn, and Pellegrini (1995) conducted a meta-analysis of 29 studies (13 of which were referred to in the NRC publication) concerned with parent/child book reading and the effects on language skills, emergent literacy, and reading achievement. Their data analyses revealed that parents reading to preschool children is, as Bus et al. conclude, "one of the most important activities for developing the knowledge required for eventual success in reading" (p. 15). The researchers further conclude that "book reading is as strong a predictor of reading achievement as phonemic awareness" (p. 17) and that their data support the development of family literacy programs. They also noted the need for further research to investigate the effects of different conditions of parent/child book reading.

Two such conditions were studied by Neuman (1996): (1) the effects of type of text used in parent-child book reading and (2) the effects of parents' proficiency in reading. The study was conducted with 41 parents from three Head Start centers and recruited by teachers to attend a one hour book club for 12 weeks. Each week the book club read and discussed a children's book, which was given to the parents. Three types of books were used: "stories with highly predictable language and familiar sequences (i.e., *Henny Penny*), episodic predictable texts (i.e., *Red Hen*); and narratives (i.e., *Snowy Day*)" (p. 500). The books were available in Spanish as well as English. The book discussion was prompted by the following questions from the facilitator: "What would you want your child to take away from this book?...What kinds of questions or comments would you use to stimulate a discussion of the story?...How would you help your child revisit this book" (p. 501)? No directions were given to the parents about reading to their children. Most of the parents reported that they did not have many literacy resources at home and that they did not read regularly to their children. Eighteen of the parents, according to their self-reports, were low-proficient readers.

Significant differences were found between the patterns of reading interaction of parents who were less proficient readers and those who were proficient readers. The less proficient readers engaged more in directing children's attention to the pictures or text and having children chime in with words of the text (Ducky Lucky); in these interactions the child also repeated words the parent had said. The proficient readers had children recall story details and relate story events to their present experiences. The type of text also evoked different interaction behaviors. With the highly predictable texts, parent and child engaged in collaborative interaction about the pictures and the words, especially the repetitive phrases and rhymes. With the episodic repetitive books, which had fewer repetitive passages, similar results were found, but there was less involvement. With the narrative text, there was discussion about the story

events and relationships to present experiences. Neuman also assessed the effects of book reading on the children's literacy achievement. Since the assessment instruments were tests of achievement on components of reading comprehension and the data are explanatory, these results will be presented in the next chapter.

As the title of Neuman's article states: "Books make a difference," and as the meta-analysis conducted by Bus et al. (1995) revealed, reading to children is one of the most important factors in emergent literacy. Book reading enables children to learn about the written register, to learn about the underlying cues that enable them to switch from the oral register to the written or literate register. As noted earlier and in summary, book reading familiarizes children with: pronoun reference (a rose, it), article reference (the, a, an), and comparative reference (smaller, larger than) as co-reference bonds; similarity chains of words that belong to the same class (apple, fruit) as co-classification bonds; and similarity chains of synonyms, antonyms or repetition (go-leave, go-come, go, going, gone) as co-extension bonds. These references, repetitions, and redundancies create cohesion among the parts of written discourse; they make the parts of the discourse "hang together." If children do not understand these relationships, then misunderstanding of the written text occurs. This knowledge of the literate register underlies comprehension of written material and, thus, is a first and necessary understanding to be achieved in the development of literacy. Research supports the importance of reading books to children as the means of achieving this understanding. Books do, indeed, make a difference.

Chapter 3

Development of Reading Comprehension

As children become familiar with the literate register, they not only gain understanding of its cohesive relations and cues but they also begin to develop understanding of other components of reading comprehension. These components, as noted in Figure 1, include concepts about print, words, books, and written text; word structure, with its division of vocabulary and meaning; and text structure, including genre with its division of fiction and nonfiction, each of which contains related components. A review of research related to these components of reading comprehension is presented below in the same format as previously with, first, a summary of the NRC's report, followed by a review of additional research.

NRC Report

Research Review. Less substantive research exists on early comprehension than on word processing; however, research does indicate that the development of decoding skills and comprehension skills needs to be simultaneous. Comprehension research indicates the equal value of recognition of words and background knowledge surrounding any given text which includes "basic comprehension of literal text meanings and the use of knowledge necessary to go beyond the literal (propositional meaning)" (p. 62). Comprehension is dependent on vocabulary knowledge as well as on the skills of inference and syntax.

Children with a wide exposure to print at home develop vocabulary and make "significant gains in their development of language skills and concepts of print" (p. 145). It is important for adults to share books with their children regularly and often. In order for children to practice literacy, however, they must "engage in a variety of purposeful literacy acts in everyday life of the family" (p.142). Through their use of literacy activities, parents can demonstrate that literacy is involved in solving problems. Parents must ensure, though, that there is active participation by the children. By drawing on these and other occasions, parents enable children to participate with literacy as a vital part of their lives.

Research Review on Instructional Strategies. Preschool classrooms are also a vital source of language and literacy experiences. Preschool research shows that when children and adults share the reading of books and participate in verbal interaction about the text, development of vocabulary and knowledge about concepts of print are positively affected. Preschools need to focus on language and literacy experiences that provide a foundation for early reading instruction. When children have more exposure to this type of preschool education, they score higher on achievement tests, are less likely to be considered for grade retention, and develop fewer problems with behavior than those with less experience.

Preschool and kindergarten literacy is promoted through carefully designed classroom environments that include dramatic play. Researchers have concluded that dramatic play increases oral language development and story comprehension and production. Voluntary literacy activities especially happen in dramatic play areas that have reading and writing materials.

Kindergarten achievement, according to the NRC report, should include the use of new speaking vocabulary, skill in noticing when simple sentences do not make sense, connection of book facts and experiences with their own lives, and skill in dramatizing stories. Other kindergarten benchmarks are listening attentively to books as they are read; demonstrating familiarity with a variety of genres such as "storybooks, expository texts, poems, newspapers, and everyday print such as signs, notices, labels," (p. 80); responding correctly to questions about stories that they have heard; and making predictions from story illustrations.

Kindergarten teachers have the challenge of

implementing developmentally appropriate literacy activities that will help to ensure the children's first grade reading success. Teachers need to make sure that the children have familiarity with the "structural elements and organization of print" (p.179). Children must be knowledgeable of forms and arrangement of books and other written materials and be able to identify and write most of the alphabet. In kindergarten, children should develop motivation to read and positive attitudes about reading. The NRC report states that children need to learn:

> to ask their own questions about the story; to respond to others' questions;...and to notice the forms and functions of print features (words, punctuation, letters, etc.). ...many of the outcomes of reading aloud as measured in kindergarten are significantly associated with reading achievement outcomes in first through third grades. (p. 180)

The pattern of teachers' focus while reading aloud to kindergartners shifts "consistently and drastically" (p. 180) depending on whether they are reading storybooks, science books, or beginning reading picture books. Preliminary to reading storybooks, the discussions focus on authors, characters and perceptions. As they read, the teachers clarify vocabulary and encourage students to make projections and talk about reasons and incidents. In the post-reading discussions, the teachers have the children think about the content of the story. With science books teachers work to help the children relate the subject more to their own experiences. Teachers work to have the children make predictions, explain, make assumptions and look for reasons. Discussions connected with beginning picture books are mostly concerned with concept of print and words.

Additional Research and Information

Concepts of Print. As noted in the chapter on registers, Neuman's (1999) data revealed that the three- and 4-year-old children who had received the Books Aloud treatment were significantly superior to the control group on concepts of print. In her earlier study with Head Start children and parents, Neuman (1996) found that, regardless of parents' proficiency reading level, children in the treatment group improved significantly in achievement of concepts of print. A more detailed analysis of this measure revealed that "concepts learned throughout the 3-month period included knowledge of the front of the book, the fact that print (not the picture) told the story, directional rules of left to right, and the concept of word and letter" (p. 308).

Roberts (1992) studied the development of children's understanding of the term *word* and investigated the relationship between the level of understanding and the children's cognitive level. Subjects were 32 middle class children in grades preschool through second grade, from two schools in an urban setting. The data were gathered three times at six month intervals.

Based upon the existing research, Roberts hypothesized a sequence of development comprised of the following in order: tacit awareness regarding spoken language, tacit awareness regarding written language, explicit awareness regarding written language, and explicit awareness regarding spoken language. The following definitions were used: "*Tacit* knowledge of language is unconscious, intuitive knowledge that a language user has of the rules and conventions that underlies the structure of that language. ...*Explicit* knowledge enables the language user to deliberately disembed and reflect upon linguistic units" (p. 126). The word tasks included having the child identify whether or not a stated word or phrase was a word, give an explicit reason for the identification, write a dictated sentence, and state the reason for given spacing or nonspacing in the writing.

The second hypothesis, which was also based on research that indicated "a link between cognitive change (operativity) and awareness of linguistic units" (p. 28), stated that children at different cognitive levels would perform differently on the word tasks. Two Piagetian tasks, one on successive sorting and the other on seriation, were administered to determine cognitive level, and three cognitive levels were identified: preoperational, transitional, and concrete operational.

The data revealed significant results supporting both hypotheses, confirming that tacit knowledge and explicit knowledge are different from each other and confirming a developmental cognitive state

sequence from preoperational to transitional to concrete operational. Substantial growth in the concept of a word appears between the preoperational and transitional stages, followed by slower growth occurring between the transitional and concrete operational stages, and greater growth again appearing during the concrete operational stage, where children "became more explicitly aware of words as stable meaning units of spoken and written language" (p. 134). Children first consider a word to be that which has reference to an object or act, as in the following examples: "table is a word because 'it's a thing'; took is a word because 'it's something you can do.'" (p. 132 and, therefore, the function words *the, and, with* were not considered to be words. This view of function words again appeared on the sentence dictation task, where more than half the subjects did not leave a space between *in* and *her*. In discussing the relation between tacit and explicit knowledge of the concept of a word, Roberts states: "This study reveals that tacit awareness of word in both spoken and written language is acquired before explicit awareness of word, and this tacit knowledge underlies children's performance on explicit word concept tasks" (p. 132). Roberts also points out that understanding of the relational aspects of the concept of word "as a unit of language" is tied to cognitive development, and "the definitive characteristics of word as an element of written language develop with exposure to written language" (p. 136).

An intervention study about adults reading to children was conducted by Whitehurst et al. (1994) with 167 Head Start 4-year-olds, whose classrooms were randomly assigned to an intervention or control condition. These researchers studied the effects of "dialogic" reading, a form of interactive reading in which the adult reading a picture book to a child asks five types of questions as prompts to involve the child actively in the reading. The acronym CROWD was presented in the training video to help the parents and teachers remember the following questions:

> *Completion prompts* were fill-in-the-blank questions, such as "Something went bump, and that made us _____?" *Recall prompts* were questions that required the children to remember aspects of a book (e.g., "Can you remember some things that happened to Lena when she went to school?"). *Open-ended prompts* were statements that encouraged the child to respond in his or her own words (e.g., "I told about the last page, now it's your turn. You tell me about this page."). *Wh- prompts* were *what, where,* and *why* questions (e.g., "What's this called?"). *Distancing prompts* were questions that required the child to relate the content of the book to aspects of life outside the book (e.g., "Did you ever play in the snow like Peter did? What did it feel like?"). (pp. 547-548)

The book was read in class and then a copy and a related book guide were sent home for a week to be read by the parent in a dialogic setting. On the posttest, the intervention group performed significantly better than the control group on the concepts of print assessment ("naming letters, identifying people reading, distinguishing between words, pictures, and numbers, and identifying components of writing" (p. 549).

A longitudinal study conducted by Phillips, Norris, and Mason (1996) investigated the effects of a kindergarten intervention program using 24 thematic booklets (one a week), in addition to the regular Canadian classroom language program, on the literacy learning of at-risk children at the end kindergarten and subsequently at the end of first through fourth grade. The researchers predicted that:

> They [kindergarten children] would begin acquiring basic concepts about print, such as left-to-right directionality, oral-to-printed word matches, and some sounds of letters heard in words. They would have less difficulty understanding and remembering printed information or benefiting from reading instruction because of this introduction. (p. 181)

The control group received the regular classroom language program, and the three treatment groups varied in the use of the booklets: at home only, at school and at home, and at school only. Several assessments instruments were used at the end of kindergarten; at the end of the other grade levels the assessments were on reading comprehension. All

treatment groups showed significant positive results from kindergarten through second grade and more modest gains for the school-only group at grades three and four. The researchers concluded that the treatment children were "able to use what they had learned in kindergarten about early literacy concepts to profit more from what they were taught in subsequent grades" (p. 191). In contrast, the children in the control group "did not acquire the same degree of knowledge about early literacy concepts" (p. 191).

Weiss and Hagen's (1988) research showed that children's literacy development begins before formal education and concerns more than letter and sound skills. Research has shown that reading and writing develop "concurrently and interrelatedly" (p. 574). The connections of literacy taken from real life settings involve children actively in the emergent literacy process. Children must experience the reasons for reading and writing in their homes and communities. Labels on food jars and cans, the local newspaper and magazines, traffic signs and many other uses of print expose children via meaningful situations. The researchers asked questions concerning kindergartners awareness of the functions of print and how kindergartners view the "reasons for reading in our society" (p. 575). The 110 children in the study were interviewed for 10 minutes individually including an informal Functions of Print Test developed for the study. Children were asked to identify a printed object such as a book or a menu. If they identified the item correctly, they then were asked to explain why people read it. Finally the children were asked to explain why people read. The results of the study indicate that the children generally were aware of the functions of print. Children easily recognized storybooks and newspapers, fewer identified the letter, and the least named print material was the menu. The researchers conclude: "Young children's understanding of why people read and their attitudes toward reading have an affect on learning how to read" (p. 574).

Neuman and Roskos (1992) found positive effects regarding concepts of print for 3- to 5-year-old children engaged in spontaneous free-play settings that had been enriched with literacy items, such as telephone directories, notebooks, magazines, TV Guides, etc. The performance indicators included: demonstrating an awareness of the permanency of print; recognizing environmental print; demonstrating that reading moves from left to right; and using pictures and print to label and tell stories. The researchers found significant differences between the intervention and control groups in the frequency, duration, and complexity of literacy demonstrations in play.

Pellegrini, Galda, Dresden, and Cox (1991) investigated the predictive relations of dramatic play and literacy in a longitudinal two-year study of two years with 12 children, age 3½ at the beginning of the study, who were in three classes of a university laboratory preschool. In dramatic play, as the researchers explain, children use an object to stand for another object, or an action to stand for another action; for example, toys or props in the playhouse stand for real objects. In dramatic play, children are engaged in a representational process, representing something they have experienced, have read about or had read to them, seen on television, etc. During the play they often talk with their peers about the play, directing, questioning, and agreeing; for example, "You're the boss now so *say* start 'em up Joe" (p. 221). The researchers point out that, in this representational process, children use three types of linguistic verbs: "(1) Idiomatic verbs...'Can you read me, Scotty?' (2) Linguistic processes...refer to interlocutors' actual uses of language, e.g., 'What did the doll *say*?'...(3) Process-Contrastives: Linguistic process verbs were also examined for their contrastive properties. 'But doctors *don't* say poo poo'" (p. 228).

Pellegrini et al. examined the relations between children's use of linguistic verbs in dramatic play and their performance on Clay's (1972) Concepts of Print test and on pretend reading tasks. The results revealed a significant positive correlation between children's use of the linguistic processes verbs in Year 1 and their performance on the concepts of print test in Year 2, and similarly between their use of linguistic process-contrastive verbs and their performance on the concepts of print test. The correlation between children's use of idiomatic verbs and the concepts of print test was not significant. Significant positive correlations were found between the children's use of the process verbs and their performance

on the reading tasks and between their use of process-contrastive verbs and their performance on the reading tasks. The process verbs, then, were good predictors of children's achievement of concepts of print and emergent literacy. As children used these verbs, they focused on language, gaining, as the researchers point out, a metalinguistic awareness.

As the previous research indicates, young children develop concepts of print from meaningful contexts in their home, community, and school, and teachers can enhance children's dramatic play by placing literacy objects in these areas. One of the most important ways concepts of print are developed is through adults reading and discussing books with children. Intervention programs that include parents have been successful with preschool and kindergarten children and have had positive effects on kindergartners' reading achievement in later grades.

Vocabulary. Parents also play an important role in children's development of vocabulary. In a study of language development, Sénechal, LeFevre, Thomas, and Daley (1998) studied the effects of middle-class parental storybook reading and writing instruction on the development of 110 kindergarten and 58 first grade children's oral and written language in Ontario, Canada. The parents submitted information about their storybook reading and their direct teaching of written language. The children were tested near the end of the school year. The oral language assessments included a receptive vocabulary test; a listening comprehension test in which the child listened to 30 short stories from one to five sentences long, with each story followed by a factual or inferential comprehension question that the child answered by selecting a picture; and one task of phoneme awareness, wherein the child identified onset or rime. The written language assessment included: Print concepts; letter name knowledge, in which the child identified the names of 10 capital letters and 5 lower case letters; invented spelling, in which the child was asked to print 10 words; and decoding, in which the child was asked to read two practice words (the child's name and *mom*) and five CVC target words, which the experimenter helped children who could not decode the letters and blend the sounds. The first grade children were also given a reading vocabulary test. The researchers reported that the data from the correlation and regression analyses revealed the following:

> For kindergarten children, both storybook exposure and parent teaching were positively correlated with children's oral and written-language skills. For the Grade 1 children, however, storybook exposure was correlated only with oral-language skills whereas parent teaching was correlated only with written-language skills. (p.109)

Christian, Morrison, and Bryant (1998) investigated the roles of maternal education, the environment of family literacy, and experience in child care centers in predicting 338 kindergarten children's academic abilities, including receptive vocabulary, letter recognition, and decoding. The results revealed significant, positive relationships between the family literacy environment and children's receptive vocabulary and between maternal education and children's receptive vocabulary. In relation to maternal education, however, the results revealed that children whose mothers had less education but who provided a high literacy environment did better on literacy measures than children whose mothers were better educated but provided less in the family literacy environment. The researchers conclude:

> The strong association between family literacy environment and early academic abilities suggests that relatively simple behaviors such as monitoring television viewing or taking a child to the library can substantially influence growth in academic skills, regardless of parents' educational or financial circumstances. (p. 516)

Eller, Pappas, and Brown (1988) investigated the process by which 20 kindergarten children learned vocabulary words that appeared in two picture storybooks. Each story was read in class on three consecutive days. After each reading, the children were individually asked by the researchers to pretend read the stories, and the use of target words (10 for each story) was recorded. The findings revealed that at first some children did not use the target word or used it inappropriately and some children used synonyms of the target word. By the end of the third reading, however, they were using the target words

appropriately. This research supports earlier studies, which found that children gain vocabulary gradually and incidentally, but it also points to the need for repeated exposure to the words in context.

Robbins and Ehri (1994) conducted a study to examine further the process by which story reading affects young children's vocabulary growth. The 38 kindergartners were individually read one of two children's stories, both of which were edited to 680 words, with the editing substituting 11 target words for the words in each story. The story was read on two intervening days, each time with the child sitting beside the experimenter and viewing the text and pictures. Some of the target words appeared twice in the story and the others appeared once; thus, some target words were heard four times and the others two times. The posttest included the target words from the story the children heard and the 11 other target words from the alternate story. Each word was accompanied by four pictures, which the experimenter explained; for example, in relation to one of the four pictures, the experimenter said, "A man asks a person a question." After the explanations of the four pictures, the experimenter, using a puppet, said, for example, "I see a man *query* a person" (p. 56). Playing a detective game, the child is asked to select the picture that goes with the puppet's statement.

The results showed that hearing stories read twice can significantly increase the vocabularies of nonreading kindergartners. Highly significant results were found for children's performance on target words heard in the story as compared to their performance on words not heard in the story, with the former performance being much higher than the latter. The researchers state that this finding "indicates that listening to stories was an effective means of expanding subjects' word knowledge" (p. 58). The data also revealed that children who had larger vocabularies as determined by the standardized vocabulary test given as the pretest scored significantly higher on the posttest than those children who had smaller vocabularies. These high scoring children were also better able to use context clues in figuring out the meaning of unknown words. Robins and Ehri conclude: "Because children with weaker vocabularies are less likely to learn new words from listening to stories than children with larger vocabularies are, teachers may need to provide more explicit vocabulary instruction for children with smaller vocabularies (p. 61).

To study the effects of book reading on low-income preschool children with limited expressive vocabularies, Hargrave and Sénechal (2000) designed a four week intervention program that compared two situations of book reading, dialogic reading and regular book reading. The teachers and parents in the dialogic reading group received five one-hour video training sessions. Teachers read 10 children's books, five of which were to be read during the first two weeks and the other five to be read the last two weeks of the program. The teachers read to groups of eight children. Parents received four children's books, one each week of the intervention program. None of the books had been read previously in the preschool classes.

The children had been pretested, using a standardized test, on receptive and expressive vocabularies, with the average score on expressive vocabulary being 13 months behind chronological age and the average score on receptive vocabulary being 8 months behind chronological age. Children in both groups learned significantly more new words from pretest to posttest. Children in the dialogic reading group made significantly greater progress in expressive vocabulary than the children in the regular reading group. In four weeks, children in the dialogic group made four months progress in expressive vocabulary. No significant difference was found between groups in receptive vocabulary. The study also showed that dialogic reading groups can be larger than those of previous research. Noting that while the children in the dialogic group made greater gains than children in the regular book reading group and that the intervention program was relatively short, the researchers conclude: "In sum, the results of the present study showed clearly that preschool children with poor vocabulary skills could learn expressive vocabulary from listening to two readings of storybooks in which novel words are introduced in print and illustration" (p. 88).

The research on vocabulary development as part of comprehension again points to the important role of adults in fostering vocabulary growth at home and at school. Repeated readings of stories increase chil-

dren's listening and speaking vocabularies.

Text Structure. In her study investigating the effects of parents reading different kinds of texts, Neuman (1996) found significant differences in parents' verbal behavior regarding story comprehension, depending upon the type of text they were reading. With the narrative text, parents used more bridging ("Making connections from story content to everyday experiences") and more recalling ("Reviewing story details, plots, and/or theme"); with the highly predictable texts, parents used more feedback, such as "correcting or confirming a response" (p. 502). In parents reading of the three types of text, the predicable being the third, no significant differences were found in the following verbal behavior: "Clarifying (Explaining picture or text)...elaborating (Extending previous utterance with new information)...and labeling (Labeling of objects or events)" (p. 502).

Trabasso and Magliano (1996), in a report of their extensive research on comprehension, stated that their research focused on narrative texts because they thought the results would apply as well to expository. Narrative text is found by children beyond the classroom in "film, books, and accounts of one's own and others' experiences" (p. 162). Even 2- to 3-year-olds use narratives to tell about their own experiences that involve feelings. "Between the ages of three and five, children become sophisticated storytellers, infer goals and plans of characters, and use their knowledge of goal plans to interpret, describe, narrate, and explain sequences of events they witness in increasingly coherent manner" (p.162).

In two longitudinal studies (Yaden, Jr., Smolkin, & Conlon, 1989), one of two children lasting two years and the other of seven children lasting one year, children's spontaneous questions during a parent's storybook reading session were recorded weekly for the extent of the study. In the first study, the age of one of two children was approximately three to five years and the other was four to six years; these children were not in preschool or kindergarten. In the second study, the children were 3- to 4-year-olds and all had attended preschool for at least a year. The researchers reported that "In total, there were 237 story reading recordings and 1,915 questions categorized as the following types of questions: pictures, story, word meanings, graphic form (questions about letters, words, etc.), and book conventions. The majority of questions were about pictures, with story content the next highest category. The data showed, however, that there was an increase over time in the questions about story content. In explanation, the researchers stated that "it is possible that after 4 years of age, children begin to pay more attention to the story itself and to the written displays than they do at age 3" (p. 208).

Clarke-Stewart and Beck (1999) investigated the effects of maternal scaffolding on 5-year-olds' narrative retelling of a story. In this study a mother and child pair saw a videotaped segment of a movie story, after which the child was to retell the story to the experimenter, who the child was told had not seen the videotape. The 31 pairs in the experimental group were told to discuss the story after viewing the tape and before the child was to retell the story. There was no discussion in the control group of 14 pairs. The mother-child discussions were recorded and the mother's scaffolding was coded as to: "Length of Discussion... Mother-Child Joint Attention... Orientation of Child to Task... Number of Questions [by mother] Correction of Misunderstanding... Emotional Words... Extended Exchanges on Critical Topics" (pp. 419-420). There was a significant difference between the experimental and control group in retelling the story. The children in the discussion group showed the benefits of the maternal scaffolding in that their narratives included significantly more actions of the story and more statements "reflecting comprehension of characters' thoughts, feelings, and goals" (p. 421) than the narratives of the control group. The researchers concluded: "The results of the study clearly suggest that discussion with the mother can improve children's ability to tell a good story. Without any discussion, children's stories were brief and bereft of motives and emotion" (p. 425).

Morrow (1988) conducted a study to see if the effects of one-on-one reading in a school setting had the same positive effects on children's responses and questions that occur in the home setting. The sample of 90 children were located in three preschools that served lower SES families. The children were divided into two experimental groups and one control group. All three groups heard a story read by a research assis-

tant the first week. Thereafter, the first experimental group heard a different story each of the nine weeks; the second experimental group heard three stories repeated during the nine week period, and the control group worked on readiness tasks, except for hearing a story as a pretest and another one as a posttest. The research assistants working with the two experimental groups engaged in introducing the story, prompting, answering questions, and responding to children's comments. The children's questions and comments were coded into the following categories:

1. Focus on Story Structure: setting, characters, theme, plot episodes, resolution.
2. Focus on Meaning: labeling, detail, interpreting (associations, elaborations), predicting, drawing from one's experience, word definitions, narrational behavior.
3. Focus on Print: questions or comments about letters...sounds...words, reading words, reading sentences, book management.
4. Focus on Illustrations: questions or comments while eyes focused on illustrations or finger pointing to illustrations. (p. 98)

Both experimental groups (different-book and repeated-book) asked more questions and made more comments than the control group. The different-book group asked more questions than the repeated-book group; the repeated-book group made more comments than the different-book group. The number of questions and comments about story structure by both experimental groups were significantly ahead of the control group, but the repeated-book group made significantly more of these responses than the different-book group. However, the data revealed that there were relatively few responses about story structure. Most questions and comments were concerned with meaning, and, again, both experimental groups scored significantly higher than the control group. The groups differed from each other on the following subcategories of meaning: detail, interpreting, drawing on one's experience. The researchers noted: "In the areas of drawing on one's experience and detail, the different-book group made the most responses, whereas in the area of interpreting, the repeated-book group made the most" (p. 100). The groups differed significantly from each other on predictive and narrational responses, with the repeated-book group making more responses than the other two groups. The groups also differed significantly on the number of questions and comments concerned with print and illustrations. Morrow concluded: "One-to-one story readings in a school setting, then, can increase low-SES children's questions and comment responses to literature in both number and complexity, providing a rich source of information for the child" (p. 104). She suggests having aides, volunteers, and older children read to a younger child in school. Noting that the preschool children in this study focused more on meaning rather than on story structure or print, Morrow offers the following implication for instruction: "Teachers need to accommodate this interest by providing discussions on an interpretive level, a departure from typical early reading activities, which tend to stress the mechanics of reading more than the meaning, or meaning only at the literal level" (pp. 104-105).

Another study about children's responses to book readings was conducted by Rowe (1998), who collected responses from 2- and 3-year-old middle-class preschoolers and in a case study of her son from birth to four years of age. As adults read and made comments about the book, the children often would spontaneously respond as a character in the story or enact a story event. The children also would locate story-related toys, using the toys in response or just holding a toy during the reading. Rowe suggested that toys and props helped children make connections between the story and their reality and that "holding toys may have supported comprehension by creating a more concrete link to the child's world experiences" (p. 23). She further explained: "When children held a dinosaur, many aspects of the character were signed in a more concrete way, leaving more attention for other aspects of comprehension and response" (p. 23).

The children in Rowe's studies also engaged in story-related dramatic play separate from the book readings. Reenactment of a full story did not occur unless adults were involved in organizing and directing the children, which occurred infrequently in this preschool. Instead, the children played out specific parts of books that were of particular interest to them. They chose a particular character to "anchor"

their dramatic play and investigated the character's behavior. Sometimes the play was close to the story, with children repeating the characters' conduct and/or language, and other times the children kept the story line but created new dialogue. Dramatic play was often a way children used to work out and better understand the meanings of a story, and it also was a springboard for the development of their own ideas about the story content.

As children engaged in book-related dramatic play, they discussed their play with each other and with any adults or children serving as an audience. Rowe notes: "Sharing play with an audience or coplayer sometimes challenged children's playscripts, placing some constraints on personal improvisation and invention because it required negotiation and agreement on meanings in order to move the play forward" (p. 27). In interpreting this aspect of book-related dramatic play and drawing upon earlier research by Pellegrini (1984) and others, Rowe concludes: "The metacommunicative stance encouraged by interacting with others may be an important feature of book-related play" (p. 27).

We turn now to this metacommunicative aspect of story-related dramatic play, first with the research of Pellegrini and then to other related studies leading to the Williamson and Silvern (1992) research that examined the effects of dramatic play negotiations, which they termed "metaplay." To further earlier research about the relations of reading comprehension and narrative activities, particularly dramatic play, Pellegrini and Galda (1982) studied the effects of thematic-fantasy dramatic play, adult-led discussion, and story-related drawing on children's ability to retell stories. Thirty-six children at each grade level, kindergarten through second grade, were randomly assigned to one of the three treatment groups. The children, in groups of four, had two training sessions in which they were read a story by the experimenter, given the directions related to their experimental condition, and then were given a story-related criterion reference test (CRT) in which the experimenter read the questions and related choices. A third "criterion" session was held, in which a story was read, the experimental condition experienced, the CRT administered, and each child asked to retell the story. Children in the thematic-fantasy play condition, after being assigned a role, were told by the experimenter: "I would like you to play about the story you have just heard" (p. 446). Children in the discussion condition, after having the story read to them, were asked "evaluative and clarification's questions" such as: "Did you like the story?" "What about the story did you like?" "Why?" "What was your favorite part?" "Why?" " Who in the story was your favorite?" (p. 446). Children in the drawing condition, after having the story read to them, were told, "Draw as much about the story as you can" (p. 446).

Kindergarten and first grade children in the dramatic play condition scored significantly higher than children in the discussion and drawing conditions; children in the discussion condition scored significantly higher than children in the drawing condition. There were no significant differences among conditions at the second grade. In relation to recall of the number of story events and the sequence of events, the children in the dramatic play groups scored significantly higher than children in the other groups. Children in the dramatic play groups were better able to respond to the judgmental questions about the appropriateness of a story character's behavior than children in the other conditions; however, second and first graders were better able to make these judgments than kindergartners. Other grade level comparisons revealed that the second graders did significantly better than both the first graders and kindergartners.

In analyzing the data regarding the benefits of the thematic-fantasy play, the researchers noted:

> Comprehension was most effectively facilitated when children's concepts of stories were accommodated to peers' story concepts through fantasy play. To initiate and sustain fantasy play, players must reach consensus on role, setting, and prop definitions. Through this verbal negotiation process children become aware of many aspects of the story, aspects other than they alone know. To engage in play they had to accommodate their views to others' views. (p. 449)

Pellegrini and Galdo concluded that, although children cannot completely retell a story until about age eight: "Kindergarteners' and first graders' story comprehension is improved when they reconstruct the story through thematic-fantasy play" (p. 451).

Pellegrini (1984) conducted another similar study to clarify the role of variables that other research at the time indicated as playing a possible positive role: "adult tuition in play, fantasy reenactment, and accommodation to peers' conflicting viewpoints" (p. 699). This research, which used the same procedures as previously, was conducted with 192 kindergarten and first grade children from low income families. The children were randomly divided into the following four groups: an adult-directed dramatic play group in which an experimenter randomly assigned each child a role, and which included "adult direction of play [taking] the form of outside intervention into play" (p. 695); a peer-directed group in which an experimenter assigned roles but did not intervene; a questioned group in which children were asked the same questions as in the previous study, including what they remembered about the story, and then were asked two additional questions about how their "version of the story was different from...and similar to the stories given by the other children in the group" (p. 695); these questions were termed "accommodation questions" because they required children to consider other aspects, including others' opinions, which, in turn, creates a consensus/negotiation process that results in a change in the thinking (accommodation). The control group drew pictures of the story. A week later the children were asked to retell the same story and were again tested with a story-related CRT. The results of this study supported the hypothesis that there would be no difference in story recall between the adult-directed and peer-directed play groups, which, according to previous research, "suggests that by the time children reach kindergarten, whether they are middle class (MC) or lower socioeconomic status (LSES) children, they do not need an adult to help them sustain fantasy play" (p. 692). The fantasy play facilitated immediate recall, but there was no significant difference between the play groups and the accommodative questioned group on the recall test a week later. Pellegrini concluded:

> Fantasy enactment of stories seems to be an important element affecting children's immediate story recall, but not their maintained recall. Verbal reconstruction of stories and accommodation to peers' conflicting versions of stories seem to be important elements affecting children's maintained story recall. (p. 700)

The effect of children's interaction about a story was also found in Morrow and Smith's (1990) study, "The effects of group size on interactive storybook reading." In this study 27 research assistants read storybooks to 27 kindergarten and first grade children from 27 classrooms in five mostly middle-class school districts. The children were randomly selected, one boy from each of 14 classrooms and one girl from each of 13 classrooms. Each child heard three stories in a one-to-one setting with the research assistant, another three stories in a small group of three children, and another three stories with the whole class of 15 or more children. The children's comprehension scores were determined by three measures: their verbal interaction with the research assistant about the story, a 16-item probed recall measure, and a free recall measure. The verbal interaction measure assessed the child's questions and comments about the structure of the story ("setting, characters, theme, plot episodes, resolution") (p. 221) and the meaning of the story ("labeling, detail, interpreting...prediction, drawing from one's experience, word definitions, narrational behavior") (p. 221). Both the probed recall and free recall measures assessed the child's comprehension in relation to the parts of the story recalled: ("Introduction, Main character, Other characters, Time or place, Primary problem, Plot episodes, Resolution, Ending, Sequence, Interpretation") (p. 225).

On the verbal measure, no difference was found between the one-on-one and small group situations, but a significant difference was found between the small group and whole class responses. In the probed recall and free recall measures, children's responses in the small group were significantly higher than in the one-on-one and whole class settings, and scores were higher in the one-on-one setting than in the whole class setting. The researchers noted that the small group setting was more conducive to peer interaction about the story than the other two settings, thereby improving listening

comprehension and literacy skills. Morrow and Smith concluded:

> Our general impression, based on our experiences in this study, is that the nature and number of the interactions that take place in a group might be more important than the size of the group. In other words, a group story reading that is "lively," but not "out-of-hand," seems to be what is desirable. Such a setting might be obtainable with a group of 5 or 7 children, depending on the children, the teacher, and probably the story. (p. 228)

In a further search of causal elements involved in story comprehension, Williamson and Silvern (1992) investigated the "relative contributions of play, metaplay, and productive language competence, within the thematic-fantasy play...context, to kindergartners' story comprehension ability" (p. 75). Metaplay is when children step out of their roles in dramatic play to deal with some aspect of the play, for example, what a character should or should not do. Children who possess productive language competence can understand and produce a complete story, including "a setting, an initiating event, a response, a goal, an attempt, a consequence, and a reaction" (p. 78). These children also can use language in such a way as to make the story interesting by their use of "clauses...and other literary devices such as intensifiers, metaphors, similes, or correlatives" (p. 78). The 120 kindergarten children were divided into groups of four from their classrooms, and over a three-day period heard and reenacted three familiar fairy tales. After the third reenactment, story comprehension was tested by a story retelling test, a picture sequence of events test, and a story-related CRT test. On the fourth day, the children were read an unfamiliar story, followed by reenactment and testing, including a productive language competence test in which children were asked to retell a familiar story. A week later the children were tested to assess maintenance of comprehension.

The play sessions, which were videotaped, "were coded for play or metaplay and for verbal or nonverbal behavior" (p. 82). Williamson and Silvern coded the following as metaplay categories, some of which (objects, actions, and roles) were classified as play by other previous researchers:

1. Nonverbal directions: Attempting to get another child to do something using nonverbal methods.
2. Object: Communication indicating that the other players should accept a prop or mimed prop.
3. Action: Communication indicating that the other players should accept a particular action. "Pretend I'm on the bed...."
4. Story line: Communication about what is supposed to be happening in the story. "You're supposed to stop her...."
5. Assign roles: Communication regarding who will play each role in the story.
6. Directing or rebuking: Telling a child to perform a specific action or criticizing an action. (p. 83)

The results revealed a significant difference between play and metaplay, with children engaging in more metaplay than play. Metaplay and productive language competence were separate factors, both of which were significantly related to comprehension. In discussing this finding, the researchers suggest that the language in metaplay is instrumental in that it is used to make the story move along and entails negotiating and coordinating with others involved in the play, thus drawing upon social skills, along with story events. In contrast, the language involved in productive language competence is descriptive and does not necessarily involve peer interaction.

Communication about story line, assigning roles, and directing or rebuking were significantly correlated with comprehension, and, because these categories were significantly intercorrelated, the researchers collapsed the category into "directing." The analysis of data showed that the metaplay, specifically the combined directing part of metaplay, and productive language competence significantly contributed to story comprehension.

The researchers caution that their finding about the lack of dramatic play's contribution to story comprehension not be misunderstood. They advise:

> Metaplay cannot take place outside the context of the overall play situation. We think this is an

> important point for caregivers of young children who might decide as a result of this study that play is not so important after all. Conclusions of this study suggest just the opposite—that is, that creating play situations is extremely important—otherwise there is not context in which metaplay can naturally occur. (p. 90)

To increase children's experiences with metaplay, Williamson and Silvern offer the following recommendation:

> To the extent that metaplay is a naturally occurring phenomenon in a play context, teachers would be well advised to provide the space and time for play to be an important part of the classroom.... Additionally, the present work may help teachers understand and explain more explicitly the specific elements in the play context to skeptical administrators, peers, and parents. (p. 92)

Dramatic play is not only story-related, as most early childhood educators know. Children spontaneously engage in dramatic play related to their experiences and related to toys and objects, such as playhouse equipment, airplanes, etc. This play can draw upon information books, expository text, to which we now turn.

Neuman and Roskos (1997), in their study of the effects of literacy enriched dramatic play areas (the post office, fast-food restaurant, and health clinic), found that, as children used literacy objects such as postage stamps, the children exhibited three kinds of knowledge: declarative, procedural, and strategic. The child telling another that one uses stamps to mail a letter is exhibiting declarative knowledge, and when she puts the letter in a mailbox, she is exhibiting procedural knowledge. Strategic knowledge, which is metacognitive, was exhibited when a child would engage in "self-monitoring behaviors such as requests for help, self-correcting, or correcting others as children assumed specific literacy roles (like a postal worker) and practiced routines" (p. 19-20). The subjects were 30 3- and 4-year-olds enrolled in an Even Start preschool program.

In these settings, the children benefited from the interaction with others, sharing their expertise, listening to the expertise of others, receiving feedback from others, and problem solving. Children exhibited both declarative and procedural knowledge, with more of the latter. Six types of strategic knowledge were exhibited: "(a) seeking information, (b) correcting, (c) self-correcting, (d) assigning roles and resources, (e) checking, and (f) gathering information" (p. 23). The data analysis revealed that the strategic knowledge was used to clarify procedures. The researchers, in comparing the settings to real life experiences, conclude:

> Still, even in these simulated settings, activity was performed in the context of some shared task that was distributed across people and applied for specific purposes. In sharp contrast to skills-based instructional settings in which children are expected to learn and perform individually independent of props, or purpose..., literacy activities engaged children in processes of meaning construction tied to their actual use. (p. 29)

As pointed out in Chapter 1, relatively little research has been done in relation to literacy development and expository texts. The Neuman and Roskos study just described is one on dramatic play. Following is one study on children's knowledge of expository texts.

Duke and Kays (1998) studied 20 kindergarten children's knowledge of expository texts at the beginning of kindergarten and three months later after they had had information texts read to them daily in school. The children, who were from low to middle-income families and were racially and ethnically diverse, were asked individually to pretend read a wordless information book and to pretend read a fictional picture book. The results revealed that the children, some of whom had included only a few expository linguistic features in September, made large gains by December in the use of these features, including significant increases in the number of appropriate verb and noun constructions. There also was improvement of technical vocabulary, classification structures, and comparisons and contrasts. These expository features did not appear in the narrative pretend readings, nor was there as

marked an increase of linguistic use in the narrative pretend readings. The researchers concluded: "In a remarkably short period of time, these young children made substantial gains in their knowledge of several key features of information book language, and generalized this knowledge to the reading of an unfamiliar book in this genre" (pp. 313-314).

This research supports that of Pappas (1993), which was discussed previously in the last chapter on register. Kindergarten children are able to grasp both kinds of text, having the ability to use the co-reference feature of narrative structure and the co-classification of the expository structure.

Assessment of Story Comprehension.

Researchers van Kraayenoord and S. Paris (1996) conducted a study about an assessment activity of story comprehension that they designed. Their Story Construction from a Picture Book activity assessed children's construction of meanings in an interactive setting devoid of print. The researchers used a wordless picture book, which they compiled from an existing book. The story words and some of the pictures were deleted; the remaining pictures were then photocopied and assembled into a 16 page wordless picture book with the title and name of the author on the cover. The researchers note, however, that this activity "can be adapted easily to any book, with or without text, that includes an identifiable narrative" (p. 47).

This approximately 15 minute activity consists of two parts, the first of which is "Spontaneous Meaning Construction" (p. 48), in which the adult shows the child the book, relates its story, and requests the child to look through the book and then tell the story. The adult observes the child and records the child's spontaneous remarks on a data sheet that includes a column headed *Observed* and another headed *Comments*, alongside a vertical list of categories and subcategories, the delineation of which follows:

Initial Examination: Comments on title/author, comments on picture, identifies topic or genre, skims pages of book

Comments about Pictures: Names objects/characters, describes actions, labels emotions, identifies motives, counts objects/characters, offers opinion

Elaboration and Personal Involvement: Generates relations, predicts what will occur next, displays affect to story, uses projection, identifies with characters/situation

Metalinguistics: Uses book language (e.g., "Once upon a time"), uses storytelling voice/intonation, constructs dialogue for characters, identifies story structure (e.g., beginning, end, plot)

Revision Strategies: Makes self-corrections to meaning, looks back in book, looks ahead in book, uses prior experiences/knowledge

Theme/Moral: Provides summary to story, provides conclusion to story, provides moral to story (p. 58)

These categories, hereafter referred to as data categories, and subcategories are used selectively again in Part 2 of the assessment activity: *Prompted Comprehension*. After complimenting the child upon completion of Part 1, the adult says: "Now I want you to go through the book again and I'll ask you some questions. There are no right or wrong answers; I just want you to tell me more about the story" (p. 58). The following six questions are asked, one question per selected page of the book. In the listing below, the related data category appears in parentheses after the question.

1. What does the first page tell about the story? (Initial Examination)
2. If you were telling someone this story, what would you say here? (Metalinguistics)
3. Tell me what is happening at this point in the story. (Comments about Pictures, Elaboration and Personal Involvement)
4. If this book had words in it, what do you think the people would be saying here? Pretend that you are reading it to me. (Metalinguistics)
5. How do you think the people in the story feel in this picture? (Comments about Pictures, Elaboration and Personal Involvement, Revision Strategies)
6. This is the last picture in the story, but what

> do you think happens next? Why do you think so? (Comments about Pictures, Elaboration and Personal Involvement, Revision Strategies, Theme/Moral) (pp. 59-61)

The assessment ends with asking the child to make up another story title and then asking the child why that title would be a good name for the story.

To test the validity and predictability of this assessment, the activity and other assessments were conducted with 28 children enrolled in Year 1 classes and 34 children enrolled in Year 2 classes in a public school in Brisbane, Australia. The data revealed no significant difference between the age groups, a finding the researchers attributed to the narrow range of age. No significant differences were found between genders. Concurrent validity was indicated by significant correlations between teachers' ratings of children's reading comprehension abilities and scores on the Story Construction activity.

Two years later, 46 children participated in additional assessments of reading comprehension and metacognition about literacy. The significant correlations obtained between scores on these measures and the initial Story Construction scores indicated predictive validity. Children who performed well on the Story Construction activity also performed well on the reading and metacognitive assessments two years later.

In their discussion of the results, the researchers state that the activity should be used in on-going monitoring of children's literacy development rather than as an isolated assessment measure. They recommend that the on-going monitoring data become part of children's portfolios. This assessment administered by the kindergarten teacher can replace the need for standardized tests; it also will provide information that the teacher can readily use.

In summary of the research on text structure, most of the studies were concerned with narrative and again pointed to the importance of interactive reading where adults not only read to children but also discuss the stories, characters, plot, and story events. Adult scaffolding positively affected children's recall and understanding of story events and character motivation. The research also points to the importance of dramatic play, especially story-related play, where studies show children engaging in this play scored significantly higher on comprehension tests and other literacy tests than children in control groups. Further analysis of story-related dramatic play revealed that the negotiations children engaged in about their play, the metaplay, was the critical factor in story comprehension. Researchers cautioned that this finding not be misunderstood, for metaplay cannot occur without dramatic play. One study found that the size of the group made a difference in interactive storybook reading, with children in small groups where they interacted with one another scoring significantly higher in story comprehension. Research also shows that kindergarten children are capable of understanding the content of expository texts and over a three month period made significant gains in knowledge of expository linguistic content features. Dramatic play areas in preschools and kindergartens often reflect expository content, such as the playhouse, airports, etc. Research indicates that adding literacy toys and props to these areas will enhance literacy development.

The research on comprehension supports the importance of reading both narrative and expository books to children and providing both the space and time for related dramatic play. Books and dramatic play do, indeed, make a difference.

Chapter 4

Development of Phonological Processing

Phonological processing is an act in which one attends to the sounds of words. Harris and Hodges (1995) note that the "constituent sounds of words can be distinguished in three ways: a. by syllables, as /book/; b. by onsets and rimes, as /b/ and /ook/; c. by phonemes, as /b/. and /oo/ and /k/" (p. 187). In phonological processing one does something in relation to these sounds. Awareness of the syllable, onset, rime, and phoneme are aspects of phonemic awareness, as is partial letter-sound recognition when, for example, a child recognizes the beginning consonant of a word.

As defined by Williams in Harris and Hodges (1995), "Phonemic awareness is the awareness of the sounds (phonemes) that make up spoken words" (p. 185). While awareness of phonemes is not initiated when children begin to speak and while it does not affect speaking or understanding what is spoken, it is important in learning to read. Williams explains: "In alphabetic languages, letters (and letter clusters) represent phonemes, and in order to learn the correspondences between letters and sounds, one must have some understanding of the notion that words are made of phonemes" (p. 185).

Partial letter-sound recognition is the beginning of the second phase of development in learning to read words, the alphabetic phase (Ehri, 1991). (The first phase is called the logographic phase, wherein children use a visual feature, such as an interesting printing of a letter or the arches of a McDonald's sign, to read a word rather than the relationship between letter and sound.) When one begins to decode a word by making letter-sound correspondences, one then is recoding the word, which, as Harris and Hodges (1995) state, is changing "information from one code into another, as writing into speech" (p. 215). Ehri and Robbins (1992) further explain:

> Phonological recoding skill involves being able to analyze spellings into constituent sound units and to blend these units to form a word. The spelling sound units might be subsyllabic units such as onsets and rimes, or they might be grapheme-phoneme units. Various factors influence how easy it is to apply recoding skill to read words never read before: the number of spelling sound units to be blended; whether the units are onsets and rimes or grapheme-phoneme correspondences, the former being easier to segment and blend than the latter; whether the spelling sound units can be found in other words already familiar to the reader; and whether the reader has previously practiced combining and recombining the units to recode novel words. (p. 22)

The review of research on phonological processing presented here begins with phonemic awareness and its components (rhyme, onset rime, alliteration, syllables, segments, blending, partial letter-sound recognition) and proceeds to phonological recoding and its components of phonetic cue reading, orthographic analogies, and letter-sound correspondence.We proceed as previously, with first a summary of the NRC report, followed by a review of additional research.

NRC REPORT

Phonemic Awareness

In this report, Snow, Burns, and Griffin refer to phonemic awareness as defined above but also use the term *phonological awareness*, which they define as "a more inclusive term than *phonemic awareness* [that] refers to the general ability to attend to the sounds of language as distinct from its meaning" (p. 52). They point out that phonological awareness is a metalinguistic skill in which the child focuses on language per se; language then becomes "an object of thought" (p. 45).

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Research indicates a positive correlation between aspects of phonological awareness and age. In a study of 3- and 4-year-olds, 91 percent of the children could say whether or not a puppet said English words correctly. A smaller percentage were able to identify words that rhyme, and it was not until five or six years of age that children could identify the beginning phonemes of words.

This study also found a significant correlation between preschoolers' phonological awareness and tests of language ability, specifically tests of semantics and syntax. Children's understanding of word and sentence meaning, along with their understanding of the grammatical structure of sentences, made the difference rather than their perception and articulation of speech. The results of this study and others indicate that phonological awareness during the preschool years develops in conjunction with the development of language ability.

In a substantial number of studies, phonological awareness in kindergarten predicted successful reading in later grades. Other analyses show that phonological awareness in kindergarten predicts later superior reading but does not predict later problems in reading. Some kindergarten children who were weak in phonological awareness "went on to become adequate readers" (p. 112). The fact that some kindergarten children have not had prior literacy experience complicates the predictability of phonological awareness as a measure of future reading. As children who lack literacy experience gain it in school and elsewhere, they develop phonological awareness. Research has found that training in phonemic awareness contributes to the development of general phonological awareness, and training in letter-sound correspondences contributes to phonemic awareness. The NRC report also points out that "numerous studies have shown that learning to read can be facilitated by providing explicit instruction that directs children's attention to the phonological structure of words, indicating that phonological awareness plays a causal role in learning to read" (p. 56).

In two studies of at-risk kindergarten children, phonological training, which in one study consisted of phoneme segmentation, enabled the experimental groups to perform better on posttests than did the at-risk controls. The differences between the posttest scores of the experimental groups in both studies and the scores of the not-at-risk control groups were reduced. However, the not-at-risk control groups scored higher on both pretests and posttests.

Phonemic awareness begins to develop through rhyme and alliteration with preschool-age children as parents and teachers read storybooks, many of which include rhyme and alliteration, and as children recite nursery rhymes and play rhyming games. Four- and 5-year-old preschoolers from poverty areas, over half of whom were unable to rhyme words and none of whom could segment words, were, with the exception of one child, able to rhyme words at the end of an experimental intervention program; over half of the matched control group could not generate rhyming words in the posttest. Six of the 21 experimental subjects were successful on all the phoneme segmentation posttests, while only one control subject was able to "segment any words into phonemes" (p. 152). In the experimental program, which took place over four months, small groups of children engaged in phonological activities for 20 minutes, three times a week. The sessions included rhyming activities; segmentation activities ("Say a little bit of 'butterfly'...Can you say 'butterfly' without the 'but'?"), and syllable identification ("Which word does not belong: mop, top, pop, can?'") (p. 151). In the second phase of this program, children engaged in contrasting phoneme pairs ("/p/ vs. /b/") through activities that stressed the differences in how the phonemes are articulated. Additionally the children engaged in segmentation activities ("Say a little bit of 'boat'"; "Can you say 'boat' without the 'lip-popper'?"; "Which word starts with a lip-popper: 'pool' or 'light'?"). In the final phase of the program, children engaged in segmenting two and three syllable words "using a 'say it and move it' procedure" (p. 151-152).

Other studies using similar age-appropriate training activities found improved phonological awareness in kindergarten children and first graders. To fully grasp the alphabetic principle, however, research findings indicate that children need both aspects of the training: phonemic awareness and letter-sound recognition. The process is "bi-directional, involving reciprocal causation" (p. 56). Some phonological awareness is necessary for children to under-

stand the alphabetic nature of written English, and learning about letter-sound correspondences increases phonemic awareness.

Phonological Recoding/Decoding

Research cited in the NRC report points out that children go from a prereading stage in which they may identify words because of some signal (several tall letters in a word or a logo such as the McDonald's arches) to an intermediate stage termed "phonetic cue reading" and then to the stage of "true reading" (p. 71). In phonetic cue reading, children decode words using the names of letters as phonetic cues; the example given in the report is of a child decoding the word *jail* by saying the names of the letters j and l (jay-ell). In the stage of true reading, children begin to decode words by letter-sound correspondence. The report notes that even if the phonemes "are not always the right ones, the child is then in the stage of full productive reading, because he or she is applying the alphabetic principle very generally across encounters with words" (p. 72). Additionally, according to one researcher, as children begin to use letter-sound correspondences to decode words, they gain a measure of self-teaching. A word that is decoded several times soon becomes a sight word.

The phonological awareness training studies with at-risk preschool and kindergartners that also included training on letter-sound associations generally found positive results similar to the studies cited earlier. The experimental at-risk groups performed better than the at-risk control groups. The NRC report states that most children, including at-risk children, can profit from training in phonological awareness, letter identification, and letter-sound correspondence as long as the activities are developmentally appropriate. However, the report also points out the following research finding:

> Some evidence suggests that an environmental literacy or whole-language orientation in kindergarten is more effective than phonics-oriented instruction, particularly for children with low initial scores on knowledge of literacy conventions, including letter knowledge..., presumably because these children are not yet developmentally prepared to benefit from explicit instruction in letter-sound relationships. (p. 185)

Another study cited in the NRC report investigated which components of a kindergarten language arts program predicted later successful reading. This study found that having children examine the structure of spoken and written words was the only component to predict successful reading at the end of first grade. Writing is another activity through which kindergarten children examine the structure of words, as the report states. (We will examine the research on writing in the next chapter.)

The big book activity of "fingerpoint reading" (p. 181) is designed to help children distinguish words and to focus their attention on the alphabetic system. In finger point reading, "as the teacher points to the words of a familiar text or refrain in sequence, the children are challenged to recite the words in time" (p. 181). Here, though, as a research study found, children also need some knowledge of beginning letter-sound correspondence to say the words. Research also indicates that children who have no knowledge of letters and phonemic awareness pay little attention to signs and other print placed in play centers. For these activities to be successful, then, children also need to be gaining knowledge of the alphabetic principle.

In relation to kindergarten children's learning of the alphabetic principle, the NRC report concludes:

> Enhancing children's letter knowledge and phonological awareness skills should be a priority goal in the kindergarten classroom. Not only will these abilities be key to the children's success in learning to read in the first grade, but they are also critical to the effectiveness of the prereading activities so important in kindergarten. (p. 188)

Additional Research

The additional research reported here includes summaries of studies on phonemic awareness, which include training experiments in preschool and kindergarten, several experiments on specific components of phonemic awareness (onset rime, syllable, and blending), studies on the relationship of training in preschool or kindergarten and reading achievement in later grades, and studies of phonemic awareness assessment. Studies on phonological recoding/decoding are also included. These summaries include

research on children gaining alphabetic knowledge and phoneme identities, reading words by analogy, and forming letter-sound correspondence; the summaries also include phonetic cue reading, and phonological recoding assessment.

Phonemic Awareness

As indicated in Figure 1 (p. 4), phonemic awareness is comprised of components that require different skills and that are at different levels of difficulty. Adams (1990) and Snider (1997) describe five levels of phonemic awareness skills and related research tasks. These levels, with the first being the easiest, are: rhyming tasks, in which the child is asked whether two words rhyme or asked to provide a rhyming word; oddity tasks, in which the child is asked to determine similarities or differences in initial, ending, or medial sounds; blending tasks, in which the child is asked to identify a word that has had the syllables or phonemes separated; phoneme segmentation tasks, in which the child is asked to say in order each sound in a word; and phoneme manipulation tasks, in which the child is asked to change a given word by adding or deleting or moving a phoneme (Adams, 1990; Snider, 1887). These tasks were utilized in the research report that follows next.

Preschool and Kindergarten Training Studies

Ayers (1995) investigated the effects of three treatment conditions with three kindergarten classrooms and 113 children. Treatment included direct and indirect instruction, along with a combination of the two, and was based on nursery rhymes, books and stories which concentrated on explicit phonological features.

The findings revealed that most of the incoming kindergarten students had little phonological awareness and that the treatments produced significant growth when compared to control groups. The study showed that "phonological awareness and reading appear to be linked to a facilitative relationship, which enables children to make progress more quickly than children without such skills" (p. 605). The data indicated that direct instruction in phonological awareness is much more effective than indirect, especially when delivered during the second half of the kindergarten year "following an initial treatment of literacy building, in which children encounter a variety of experiences with oral and written language" (p. 603). Ayers concluded that direct instruction of phonological awareness enables children to draw directly upon those skills in reading. Ayers also found that large group phonological awareness training works well "even within relatively short periods of intervention" (p. 606).

Morris (1993) found that "there exists a strong relationship between children's early phonological awareness (awareness of phonemes within spoken words) and their achievement in reading upon entering school" (p. 133). In a study with 53 suburban Chicago children from three classrooms, two classes had about 30 minutes a day of "systematic language-experience instruction" (p. 139). The children in the other class had little formal reading education, with less than one minute each day focused on print related activities. This class worked on oral language, science and social studies and encouraged experiential play.

The year-long kindergarten study examined "the unfolding of phoneme awareness as the kindergarten children start to become readers" (p. 133). The study also examined the "concept of word in text—(children's) awareness of the match between the spoken word and the written word in the reading of text" (p. 133). Additionally, the study looked at beginning consonant knowledge and "the ability to segment one-syllable words into their constituent phonemes" (p. 139). For the purpose of this study, assessment occurred four times during the school year. Results showed the accuracy of the study's hypothesis: beginning consonant knowledge precedes concept of word in text which precedes phoneme segment ability which precedes word recognition. At the end of the year, in the two classrooms where language-experience was a daily activity, children scored considerably higher in concept of word and phoneme segmentation skills than those children in the oral language/experiential play class.

In a study conducted by Castle, Riach and Nicholson (1994), phonemic awareness training was provided at the beginning of schooling in order to assess its effect on the reading and spelling growth of 5-year-olds. One group of children received phone-

mic awareness weekly sessions for 10 weeks, while the others experienced process writing program instruction. All the children were in classrooms where they were receiving whole language instruction. Both groups significantly gained in their spelling and reading performance. Reading instruction in kindergarten is affected by phonemic awareness and process writing training. Children gain more in both programs than in a regular whole language classroom.

O'Connor, Notari-Syverson, and Vadsy (1996) noted that in kindergarten "current curricula include minimal phonological instruction beyond rhyming and identifying the first sound in words" (p. 118), even though substantial research exists about the benefits of such instruction. Studying children from different kinds of kindergartens representing similar neighborhood income levels and ethnic composition, the researchers asked, among other things, whether or not teachers could incorporate phonological instruction into their regular lessons. They further asked what effect the instruction would have on phonological, reading, and writing outcomes. During the six month study, the classrooms implemented over twenty phonological treatment activities ranging from word and syllable awareness, rhyming, sound isolation, onset-rime blending and finally the addition of letters and sounds. In regular classes teachers used the activities with the whole class, and in the special classes the activities were used with small groups of children. The control classes used the same basic readiness program, but none of the treatment activities.

The researchers found that, on the pretests, the general kindergartners scored higher than those in the transition classes, i.e., those repeating kindergarten. In looking at the treatment outcomes, children who had the phonological activities did better on phonemic manipulation and reading/writing activities than did the children who did not participate in the activities. Transition children made greater gains than those with disabilities. Teachers reported that the activities that were "play centered" were easy to incorporate into their routines. Results of this research suggest that teacher interventions are effective in improving literacy for kindergarten children with and without learning problems.

Edwards (1996), studying inner-city kindergartens, found that those students participating in an 11-week program of about 40 twenty minute phoneme awareness and letter-sound activities did significantly better that the matched control groups. When the intervention was continued in first grade and the students were reassessed, those who had received the phoneme awareness and alphabet-sound activities lessons continued to perform better than the other students.

The programs were implemented in regular kindergarten and first grades and taught by the classroom teachers. The teachers further noted that the children receiving the intervention seemed more self-confident about their skills and readily participated in writing activities. Edwards notes that phonetic (invented, temporary) spelling when it is close to the standard spelling shows that the writer is understanding the letter-sound association. In conclusion Edwards notes: "Results of a two-year study indicate than an alternative language curriculum that emphasizes phoneme awareness, letter sounds, and the alphabetic code is particularly helpful to disadvantaged children, who may be lagging in essential literacy skills when they enter school" (p. 153).

Specific Components of Phonemic Awareness

Onset Rime. A study by Christensen (1997) was designed to distinguish specific phonological skills that come before and assist in the development of reading. She discussed finding discord in earlier research between whether phonological awareness has a casual role in the development of reading skills or is a result of learning to read. Christensen studied a group of 630 preliterate children during the first semester of school and then assessed their progression with a span of phonological skills together with their reading at midyear and at the end of their first year. She also examined their knowledge of letters. She found that phonological awareness embodies a group of related skills and that children follow a diverse developmental path as they acquire competence in phonological awareness and letter knowledge. The data revealed a strong correlation between letter knowledge and later reading development. Christensen concluded that children who had devel-

oped rhyme, onset, and phonemic awareness skills performed better than any other group.

Citing research about young children's difficulty in isolating single phonemes and other research about their ability to divide syllables into onset and rime, Kirtley, Bryant, MacLean, and Bradley (1989) further investigated the relationship between these two findings. They found that 5-year-olds (prereaders and readers) were correct more often with beginning rather than ending sounds. The children were able to categorize words as beginning the same when the beginning consonants were of the same onset ("cat, cup"), but they were not able to categorize words as having the same ending sounds when the final consonant was part of the rime ("cat, pit" [p. 223]).

To further investigate these findings, a second study was conducted with 5- to 7-year-olds in which consonant-vowel (CV) and vowel-consonant (VC) patterns were varied. The findings revealed that the children at all three age levels were successful in categorizing words and nonwords based on onsets and rimes. The researchers point out that what we have recognized as children's ability to rhyme is due to the onset-rime distinction, which children do not have to be trained to do. Kirtley et al. conclude that "onset and rime play a considerable role in the development of children's phonological awareness, at least between the ages of five and seven years" (p. 243).

Treiman (1985), defining syllable as composed of an onset and a rime, conducted a study to see if the structure of an oral syllable prompts children to identify the target phoneme within that syllable. She found that 4- and 5-year-olds "treat onsets as units before they analyze them into their component phonemes" (p. 163). Children have difficulty identifying the initial phoneme in a syllable that begins with a consonant cluster. They could identify a spoken or printed consonant more easily when it was by itself as an onset than when it was the first phoneme of a cluster.

Syllables. The main purpose of a study conducted by Vernon (1993) was to ascertain whether or not the development of early literacy skills of monolingual English-speaking children is comparable to Spanish-speaking children and whether English-speaking children develop a syllabic hypothesis to establish initial sound-letter correspondence. Vernon's study concluded that development was, in general, syllabically similar to those of Spanish-speaking children. In both languages, children begin by using any letter to represent any syllable. Spanish-speaking children prefer to use vowels, whereas English-speaking children use consonants. The study concluded that syllabic writings are the same in English and Spanish-speaking children. Children begin by using any random letter to represent any syllable. When they start trying to control similarities and differences, they begin matching an oral syllable to a pertinent letter. Children construct a syllabic hypothesis prior to using knowledge of alphabet in reading and writing.

Blending. Citing previous research results noting the difficulty of oral blending of consonant-vowel-consonants (CVC) words for low-SES children and for young children, Weisberg, Andracchio, and Savard (1989) conducted further research to determine factors involved in the extent of difficulty of pause intervals between CVC (0 seconds, 1 second, 3 seconds), training, and word familiarity. Two experiments were conducted, the first with prereading kindergarten and reading first grade children to determine the effects of interval pauses, including having no pause, which had not been investigated previously. The second experiment was conducted with three groups of kindergartners who had received differential reading instruction with synthetic phonics and whose status of reading was determined as advanced or intermediate or beginning. (Some of the children were already reading at advanced levels for the age level.) In this second experiment, the effects of reading and training in synthetic phonics on oral blending were tested. In both experiments, children were given initial training in blending words, syllables, and CV and VC phonemes as a "Say it fast" game (p. 141).

In the first experiment, the first graders did significantly better than the kindergartners at all interval levels and on blending familiar words and nonwords. Both kindergartners and first graders performed better at the 0 second interval than at the 1 second and 3 second intervals. The researchers con-

cluded that the findings of this experiment supported previous research which found that school-age children had difficulty blending CVC words when there were silent intervals between the phonemes.

In the second experiment, the advanced reading kindergartners performed significantly better than the intermediate and beginning reading kindergartners. There was a significant correlation between the number of reading lessons and blending ability. There also were positive correlations with age and IQ but not as high with the number of lessons; further statistical analysis revealed that the number of reading lessons was the best predictor of blending ability. The researchers point out that the findings of these studies should not imply that training was responsible for the success in oral blending, for they had included a sample that received training but not reading instruction. They state: "The fact that a number of reading lessons correlated highest with an ability for blending and accounted for the largest proportion of blending variance is indirect evidence for the promotion of oral blending by reading-related experiences" (p. 144). In relation to instruction, the researchers advise:

> The data suggest that the teacher say the sounds slowly in an exaggerated form without introducing any pauses between them. To help convey that words consist of smaller units, the teacher could emphasize changes in sound values by exaggerating mouth movements or by clapping or holding up a finger for each new sound said. (p. 144)

Phonemic Awareness and Later Reading Achievement

Burts et al. (1993) looked at the relationship between the developmental appropriateness of kindergartens and children's report card grades in first grade. They found that the children who had been in more developmentally appropriate classes had higher reading grades than those from less developmentally appropriate kindergartens. Grades for low-SES children who had been in the more DAP classrooms were not found to be significantly lower than those of high-SES children. Burts et al. state:

> These results do not support the idea that using more formal academic methods will result in higher achievement as believed by some parents and professionals. Findings indicated that low SES children coming out of less developmentally appropriate kindergarten programs were off to a poorer educational start than any other group. (p. 30)

A study conducted by Scanlon and Vellutino (1997) compared the instructional programs for three groups of kindergartners with the children's achievement in first grade. The kindergartners were identified as at-risk for reading success based on their ability to name letters. First grade data revealed that the most successful children in first grade had been in kindergartens where more time was spent on phoneme awareness, spelling and writing. For the average and poor readers, the differences did not involve these attributes but were found instead to be based on various kindergarten assessments of letter-naming and verbal memory. There was no variance between the average and good readers based on cognitive measures. The researchers concluded that children who begin kindergarten with poorly developed letter-naming skills, but who become good first grade readers, have developed needed linguistic skills because in their kindergarten programs more time was involved in activities that focused on discovering the structural components of words.

In their longitudinal study, Majsterek and Ellenwood (1995) administered "phonological synthesis and analysis tasks" (p. 449) to 129 children during the spring before they entered kindergarten. The researchers selected tasks that would be understandable by children not yet in kindergarten. The purpose of the study was "to determine to what degree these developmentally appropriate screening procedures would relate to reading performance at the end of second grade" (p. 450). At the end of kindergarten, children were assessed on sound-symbol relationships and letter identification. At the end of first grade, the Iowa Test of Basic Skills (ITBS) scores were collected. Teacher evaluations of reading performance were collected at the beginning of second grade. In kindergarten all district classrooms used "letter people" for sound-symbol acquisition. School records were collected on teacher reports, including children's achievement of objectives. The

first grade program in the district has been described as a whole language approach. In November of the second grade, teachers were asked to identify children performing at, above and below grade level. In the spring of second grade, each student took the Peabody Picture Vocabulary Test, Form L (PPVT) as well as part of the Woodcock Reading Mastery Test, (WRMT-R). The data revealed the following:

> Performance on the experimental rhyme-screening procedure was significantly related to reading performance on the ITBS at the end of first grade, and to the Word Attack subtest of the WRMT-R at the end of second grade.... The sound-blending screening procedure was significantly related to all interim and outcome measures except for the letter identification PPO [pupil performance objectives] at the end of kindergarten (p. 453)

Majsterek and Ellenwood think that this study shows that phonological awareness screening of prekindergartners does "predict children who might be at risk for early reading difficulties" (p. 453). Sound blending skills of prekindergartners should be considered as a means to screen children who are possibly at risk for reading achievement and "who deserve further monitoring in kindergarten and first grade" (p. 454).

Snider (1997) investigated the predictability of phonemic awareness in kindergarten children in relation to the children's achievement in reading in second grade, administering an informal test of phonemic awareness in April to 73 kindergartners. The school district's standardized tests given in second grade were used to determine reading scores for the 50 children of the original group who were in the second grade. The Test of Phonemic Awareness included the following subtests: rhyming, same initial consonant, initial consonant substitution, phoneme segmentation, and phoneme manipulation (in this test called "Strip Initial Consonant" (p. 210), which is identifying the word left when the first initial consonant is deleted, t-ask).

The kindergarten testing results supported previous research that found a hierarchy of phonemic awareness skills from the easiest, which were same initial consonant and rhyming, to hardest, which were substitute initial consonant, phoneme segmentation, phoneme manipulation, in that order. Snider concluded that the tasks were difficult for kindergarten children. High scoring kindergartners performed much higher than the children scoring average on phoneme segmentation, strip initial consonant, and initial consonant substitution. Low scoring children were unable to do most of the tasks except for the same initial consonant task.

The second grade data revealed that the following subtests predicted reading achievement in the second grade: phonemic segmentation, strip initial consonant, and initial consonant substitution. However, Snider cautions that doing poorly on these subtests in kindergarten does not mean that children will not become readers. She points out that a shortcoming of her test is the lack of a subtest on blending, which other research has found to be a better predictor of future reading than "phonemic analysis, which develops along with reading" (p. 207).

In a second experiment, Snider retested 12 children in the third grade who had been among the lower-scoring kindergartners on the phonemic awareness assessment. In addition to this assessment, a third grade reading portion of a standardized test was administered. On the phoneme segmentation and phoneme manipulation tasks, the children "showed remarkable improvement" (p. 207), readily understanding and achieving the tasks. Six of the children were reading at grade level, three of whom were fluent readers and one of whom had been diagnosed as learning disabled. Four students who were diagnosed as learning disabled were not reading at grade level, three of whom were the lowest scorers on the third grade tests and on the kindergarten phonemic awareness test. Thus, as Snider points out, a substantial percentage of children who were at risk in kindergarten because of poor performance on phonemic awareness tasks were average readers by third grade. She concludes:

> Until our knowledge becomes more sophisticated, educators should be skeptical of making important educational decisions about placement based on children's performance on phonemic awareness tasks. Instead, poor performance on tests of phonemic awareness should be used as a mandate to provide explicit instruction in phonemic awareness as part of beginning reading instruction. (p. 210)

MacDonald and Cornwall (1995) followed up on students who had been participants in a study eleven years earlier. The 24 teenage students in the investigation were originally participants in a phonological analysis and reading and spelling study when they were in kindergarten eleven years earlier. Results indicated that phonological awareness skills are critical precursors of word identification and spelling proficiency. More than half of the original children in the study were not available for the follow up analysis. The students were all middle-class Caucasians. The researchers note:

> At age 17, the relationship between word identification and reading comprehension skills was not statistically significant. However, vocabulary development and scores on the AAT* were related to reading comprehension skills during high school. (p. 525)

MacDonald and Cornwall thought that even though the study was limited that there were three important findings.

- Phonological awareness tests are useful for assessing predicted success in reading and spelling.
- Phonological awareness tests are better predictors than either SES or vocabulary knowledge or success with word identification and spelling skills.
- Care must be taken in predicting later reading and spelling from kindergarten achievement measures.

MacDonald and Cornwall conclude:

> Stable patterns of individual differences in word-reading skills may not yet have emerged in 6-year-old children, perhaps due to different instructional experiences with reading at home.... Phonological awareness at the end of kindergarten is not only more stable than word identification and spelling ability over this 11-year interval, but also is a better predictor of later word identification and spelling skills than are kindergarten levels of reading and spelling achievement. (p. 525)

*(a 40 item sound deletion task)

Phonemic Awareness Assessment

The focus of Yopp's (1988) research was to determine the reliability and validity of phonemic awareness assessments. Ten phonemic awareness tests were administered to 96 kindergarten children who were also tested on their rate of decoding artificial words. The research confirmed that most phonemic awareness tests are "significantly and positively correlated. Likewise, there is converging evidence on the relative difficulty of certain tests for young children" (p. 171). Phoneme blending testing is relatively easy for children; "rhyme tasks are the easiest of the phonemic awareness tasks to perform, whereas, phoneme deletion tasks are the most difficult" (p. 172).

Yopp (1995) also reports: "There is substantial evidence that phonemic awareness is strongly related to success in reading and spelling acquisition" (p. 21). In her 1988 study, which began with students in kindergarten and continued over seven years to the sixth grade, she found that children with difficulties received appropriate instructional support that included the following:

- Read aloud books emphasizing speech sounds through rhyme, alliteration, assonance, phoneme substitution, and play with language as in the books of Dr. Seuss
- Guessing games blending orally spoken sounds
- Common songs that substitute sounds
- Sound boxes

Yopp sees the test as a tool that is valid and reliable, as well as simple and quick to administer, and that it can be used to determine a child's phonemic awareness performance, which is significantly related to a child's achievement in reading and spelling for years to come.

O'Connor and Jenkins' (1999) goal "was to design a small set of phonological, letter, and memory tasks" (p. 160) for early identification of children with reading disabilities. Tests given later in kindergarten proved to be more accurate than those administered earlier, and those given at the end of first grade more so than those at the end of kindergarten.

However, "discriminant analysis based on a small subset of predictors gathered in kindergarten or early first grade yielded high hit rates in distinguishing children who exhibited an RD profile at the end of first grade" (p. 183). Cognitive and language factors that are important in learning to read are apparent in kindergarten and first grade and prove to be reliably related to later reading success. "These include phonological manipulation skills such as rhyming, blending, sound isolation, and segmenting" (p. 160).

Summary

The preschool and kindergarten training programs have enabled children to gain phonemic awareness skills that have facilitated their success in beginning reading. The predictive studies also show advantage for children gaining phonemic awareness skills in relation to later reading; however, the research also shows that kindergarten children who lack phonemic awareness skills do become successful readers in later grades. The relations involved in phonemic awareness and beginning reading are interactive and reciprocal. The research evidence supports explicit teaching of phonemic awareness skills in kindergarten.

Vandervelden and Siegel (1995) suggest that phonemic awareness and phonological recoding be redefined "as sets of skills that develop gradually and reciprocally with learning to read and write" (p. 873). After introductory remarks about the components of recoding, we turn to research on recoding, including that of Vandervelden and Siegel, which is reviewed under letter-sound correspondence.

RECODING

As noted earlier in the summary of the NRC report, children beginning to decode often do so by using the names of letters, which is phonetic cue reading. The child uses the name of the letter as a cue to decoding the word, as in the earlier example of a child using the names of the letters *j* and *l* to read the word *jail*. In phonetic cue reading, children may also use an initial consonant from a known word to identify another word. Letter-sound relations are stored in memory and then retrieved when letters in spellings and sounds in pronunciations act as cues. Children also make orthographic analogies in which they use the spelling of a part of a word they know to figure out another word, for example, using *eak* from the known word *peak* to read a new word *beak*. When children decode words through making letter-sound correspondences, they are using the alphabetic principle; thus, as noted in the NRC report, they are in the stage of actual reading, even if they use the wrong phonemes or make a partial letter-sound correspondence. These components of recoding—letter identity and phonetic cue reading, orthographic analogies, and letter-sound correspondence—are the subjects of the additional research reviewed below.

Letter Identity and Phonetic Cue Reading

To check on how much young children know about the alphabet, Worden and Boettcher (1990) tested children 3- to 7-years-old on the following: recitation of the letters, with acceptance of the ABC song; identification of upper case and lower case letters presented to the child; identification of the sound associated with a given letter; and saying a word that begins with a given letter. As expected the data showed an increase with age in ability on all measures. The data revealed that the skills are all related but have different rates of development. Children found it easier to name and print upper case than lower case letters, a finding that reflects "greater visual simplicity and distinctiveness of uppercase letters and customary use of capitals for emphasis" (p. 288). Additionally, as the researchers note, children see more upper case letters in their environment

Following are data from Worden and Boettcher's tables (pp. 293-295) on 5-year-olds. On naming letters, 90-97% were able to correctly name the upper case letters A, B, F, O, S, X and lower case o; 82- 89% correctly named the upper case letters C, D, E, H, I, J, M, N, P, Q, R, T, U, W, Z and lower case letters c, i, k, r, s, v, w, x, y, z; 74-79% correctly named the upper case letters G, K, L, V, Z and lower case letters m, p, t. On the rest of the lower case letters, 5-year-olds ranged from 68% correctly naming f to 29% naming g. On the letter-sound correspondence task, the highest percentage reached was 53% for the letter S, and 50% were able to correctly name a word that began

with the letter D. Thus, as the researchers note, " knowledge of names and sounds does not emerge concurrently" (p. 289). In relation to their study, Worden and Boettcher conclude: "The results suggest that children do not learn the alphabet idiosyncratically, but rather are strongly influenced by the orthographic/linguistic system used in their culture" (p. 290).

Ehri and Sweet's (1991) research was based on a laboratory study with 36 (18 boys and 18 girls) preschool, kindergarten and day care center children who ranged in age from four-and-a-half to six years. None had previously participated in emergent literacy programs. They were assessed on letter knowledge and word reading ability. The three pretests included reading target words, naming letters, and reading words at the preprimer level. The children were given practice in choral and fingerpoint reading and received training in phonemic segmentation. After they received the training they were presented with capital letter text and were scored for (1) correctly reciting each line, (2) pointing to words in line, and (3) voice reading and pointing correspondence. The six posttests included: (1) recognizing altered text, (2) reading isolated lines of text, (3) reading isolated target words, (4) reading target words in text, (5) recognizing words in text, and (6) letter discrimination. The results of the assessment showed that the children had a major problem in learning to fingerpoint read, in this case fingerpoint reading segments. Ehri and Sweet concluded that phonemic segmentation is a critical skill for fingerpoint reading of familiar text and also for matching print with speech during fingerpoint reading. Based on their results, the researchers also concluded that the ability to read a few preprimer words enables beginning readers to remember how to read individual words in text and that knowing letter names enables beginners to locate words in lines of text they have read and to recognize when text has been altered. However, knowing letter names did not enable the children to remember how to read individual words or to fingerpoint read memorized text. Ehri and Sweet also conclude that unless children know letters well, they will not be able to store letter information in memory, and it is letter memory, not letter discrimination, that is critical for developing reading skill. The researchers also noted that, because this study was short-term, conducted over two days, further research should continue over a longer period of time in order to validate their findings.

Byrne and Fielding-Barnsley (1991) conducted a 12-week study with 126 preschoolers, ages four-and-a-half to six years, to evaluate a program they had designed to teach phoneme identity and also to investigate further their previous research findings that both phoneme awareness and letter-sound correspondences are necessary for preschoolers to grasp the alphabetic principle. The children were randomly assigned to the experimental and control groups, with 64 in the former and 62 in the latter. Both experimental and control subjects attended their sessions in subgroups of four to six children.

The program for this study focused on six phonemes, five consonants and one vowel because, as the researchers hypothesized on the basis of their previous studies, "once the principle of phoneme identity is acquired for some phonemes, it will spread unaided to other sounds" (p. 453). The experimental group engaged in activities concerning each focus phoneme, first, in the initial position and then, a week later, in final position. Posters with pictures depicting the phoneme position, games, worksheets, and jingles emphasizing the phoneme and its position were used. The control group was read a story each time, followed by poster and game activities about "semantic categories (animals...etc.)" (p. 453).

The children were pretested on tests of verbal language, concepts of print, reading signs such as McDonald's, recognition of letter names and their corresponding sounds, and phoneme identity. Practice trials preceded the phoneme identity test, in which the child was shown a picture of an object and told its name, then shown three pictures, told the names of the objects, and asked which of the three pictured objects began with the same sound as the first object; included in this test were phonemes that were part of the training sessions and phonemes that were not in the training sessions. There was no significant difference between the groups on the pretests.

The same phoneme identity tests were included in the posttest. The posttest also included tests of the sounds of six letters that were to be used in the last

posttest, which was a "form of reading" (p. 452). In this posttest, the child was shown a word printed on a card (for example, *sat*) and asked if the word said "*sat* or *mat*" (p. 452), with half of this test on initial phonemes and half on final phonemes. This test was also referred to as "word choice" (p. 453).

The results showed that all the children gained from pretest to posttest; however, the experimental group made significantly greater gains. The experimental group performed significantly better than the control group on all posttests, which shows "that recognition of phoneme identity can be trained with the program used in this study" (p. 454). The fact that children could identify sounds for phonemes that were not in their training "indicates that phoneme identity is a stable construct once it is achieved and that, in teaching programs that include identity detection, there is no need to cover all the phonemes of the language" (p. 454). Initial phoneme identity was easier than final phoneme identity, and this finding also appeared in the word-choice test. The data also show, however, that final phoneme identity can be successfully taught.

All subjects were classified "as passing or failing on word choice, phoneme identity, and letter knowledge" (p. 454) to test the hypothesis that both phoneme identity and letter-sound correspondence are necessary and sufficient for attaining the alphabetic principle. The data showed that both phoneme identity and letter-sound correspondence are necessary for children to achieve the alphabetic principle; the sufficient part of the hypothesis was not supported. Byrne and Fielding-Barnsley point out that the finding that both phoneme identity and letter-sound correspondence is necessary for achieving the alphabetic principle is supported by previous research.

Murray (1998), questioning a Byrne and Fielding-Barnsley finding, designed an alternative study to clarify whether phoneme identity or manipulation made the difference in children's learning about the phonological structure of words and to answer the question: "Do children more readily begin using the alphabet to decode when they learn to manipulate phonemes or when they learn the identities of particular phonemes" (p. 463)? In a double blind study in which "neither the posttest examiner nor the participants were aware of treatment assignments" (p. 463), 48 kindergarten children from five schools were randomly assigned to two experimental instructional groups and one control instructional group. One of the experimental groups learned about the phoneme identities of eight phonemes through alliterative and sound stretching activities that would enable children to remember the letter and its sound in both initial and final consonant positions; some blending and manipulation were necessary but here the emphasis was on identity. The manipulation experimental group engaged in blending and segmentation activities, using a wide variety of phonemes from nursery rhymes. The control group engaged in a language experience program with an adult reading stories aloud, engaging the children in discussion of the stories, and having the children write their own stories. On the 15th and final day of the instructional programs, all three groups were taught the letter-sound correspondence of eight phonemes to be used in the posttest, which was the only letter-sound correspondence instruction any of the groups had received. The children were pretested on knowledge of the alphabet, phonemic manipulation, phoneme identity; word identification from phonetic cue reading and a word list and reading passage; and oral vocabulary. No significant differences were found between groups. The posttests included: a count of the trials it took to master the eight letter-sound correspondences, a test of phoneme manipulation, a test of phoneme identity, a word matching test that included matching of final consonants, a test of phonetic cue reading, a test of decoding using the eight phonemes taught in the last session, and a measure of attitude.

The results revealed that children in the phoneme manipulation groups were superior to the other two groups in blending and segmenting, a not unexpected outcome. The fact that manipulation training did not improve children's achievement of letter identity and that training in letter identification did not improve children's achievement of phoneme manipulation indicate that these two components of phonemic awareness are independent of each other.

No group differences were found on the word-to-word matching test used to assess phoneme identity knowledge. Murray attributes this finding to the fact that the test was too difficult for kindergarten children because of its memory load. The phoneme identity training, however, proved superior to the other groups on the phonetic cue reading test. The data indicated that knowledge of phoneme identity is involved in phonetic cue reading.

Commenting on the instructional programs used in the study, Murray states:

> The independent effects found for the identity and manipulation programs suggest that both types of instruction are valuable. After children have caught onto how letters cue the phonemes of spoken words, learning to manipulate phonemes by blending and segmentation manipulations will likely help beginners progress into sequential decoding. However, because knowledge of phoneme identities seems more helpful in gaining initial insight into alphabetic writing, instruction in phoneme identities is likely of greater value than manipulation instruction for children who have not yet demonstrated alphabetic insight. (p. 473)

Treiman, Tincoff, Rodriguez, Mouzaki, and Francis (1998) conducted two studies "to explore the factors that made some letter-sound correspondences easier for children to learn than others" (p. 1524) with 660 children, ages three-and-a-half to seven, in the first study, which assessed children's knowledge of letter names and sounds; the second study conducted with nine preschoolers examined the children's learning of sound-letter correspondence. The results show that "an important determinant of letter-sound knowledge is whether the sound occurs in the name of the letter" (p. 1524). They found that children use their awareness of letter names, along with their phonological proficiency, when beginning to learn letter sounds. The results indicated that it is easier for children to learn the letter sounds when the sound (phoneme) is part of the letter name and especially when the phoneme is at the beginning. With letter such as b, d, j, t, the phoneme appears at the beginning, whereas with letters such as f, l, m, s the phoneme is at the end.

Children find it easier to learn letter-sound relations for letters that have only one common sound rather than those with more than one, for example, c. Instead of simply learning through memorization, children try to make sense of the relationships between letter names and sounds. The researchers further state: "Our findings imply that letter-sound knowledge and phonological awareness, rather than being two separate foundations of literacy, are intimately related. Children must have some degree of phonological skill to benefit from the clues provided by many English letter names about the sounds the letters represent" (p. 1537). The researchers suggest that it is probably not a good idea to spend the same amount of time teaching the easier letter-sounds (b) as the more difficult ones (w).

In a study that was comprised of 32 children, who had high level phonemic awareness and alphabet knowledge training for 12 weeks during preschool, researcher Fielding-Barnsley (1997) found that direct instruction leads to greater reading success. After a year in preschool, all but two of the 32 students in the study were "secure in the concept of phoneme identity for beginning and ending phonemes" (p. 87). The children were taught to read 10 real words during their first six weeks in kindergarten. They used decoding, encoding, and whole word methods. Children who used decoding and encoding methods were found to be superior in reading and writing real and pseudo words to those children who used the whole word method . Fielding-Barnsley states: "The results support the contention that explicit instruction is helpful even when children have high levels of phonemic awareness" (p. 85). This researcher further contends that phonemic awareness must be coupled with alphabet knowledge for optimum success and that both" in turn need to be made specific to the act of reading" (p. 86). "The results of this study help to confirm the hypothesis that explicit instruction in decoding and encoding, on top of phonemic awareness and alphabet knowledge, assists children in the decoding of novel words" (p. 93).

Orthographic Analogies

Peterson and Haines (1992) investigated the

effects of orthographic analogy training on kindergarten children's ability in the following: reading words by analogy, segmentation, and letter-sound knowledge. The 44 children from five kindergartens were randomly assigned to an experimental or control group. After the pretest was administered, the control group remained in the regular kindergarten programs, and the experimental group received individual training on 10 words in seven 15 minute sessions over a one-month period. The training of each word consisted of the experimenter presenting the word, focusing on the rime, and directing the child in several practice activities of identifying the rime and substituting the onset with five rhyming words. Segmentation and letter-word correspondence were not directly taught during the training. When the training was completed, the posttest was administered to the control and experimental groups.

The experimental and control group pretest data were combined to examine the relation between reading words by analogy prior to training and segmentation ability. On the basis of the segmentation pretest, children were divided into three groups: high segmenters, medium segmenters, and low segmenters. The data revealed a significant relationship between high segmentation skill and the ability to read words by analogy. The data also showed that significantly more high segmenters were able to read words by ending analogy than by beginning analogy and more so than the middle and low segmenters. The experimenters concluded that ending analogies were easier because they reflect the onset-rime division.

Posttest scores revealed that the analogy training enabled the experimental group to perform significantly better than the control group on segmentation, with much of the significance due to the experimental low segmenters' gains, which brought them equal to the middle segmenters on this measure.

On letter-sound knowledge, there was a significant difference between pre- and posttests for the control and experimental groups; however, the difference was greater for the experimental group, reflecting the effects of analogy training even though letter-sound correspondence was not directly taught. The experimental middle segmenters gained the most. In contrast, the control high and low segmenters gained only slightly, with the control middle segmenters showing no gain.

Significant effects of training were again found between the experimental and control groups on the test of reading words by analogy. Although the control group data revealed a significant pre- and posttest difference for the control high segmenters, this difference was far exceeded by the experimental high segmenters. The data also showed that the experimental high and middle segmenters gained significantly more than the experimental low segmenters, which did not increase significantly. The researchers conclude:

> The present study affirms the results of research showing that analogy training specifically based on onset-rime units is an effective method to assist children as they move into reading. Such training appears to be useful not just for those children who are "ready for it" by being the most advanced in their group. All children in our study benefited, albeit in different ways. The potentially "at-risk" children, our low segmenter groups, did not improve in word reading but did respond with improved sound segmentation ability, a skill which appears to be a precursor to reading by analogy. Although we recognize that letter-sound knowledge and segmentation skills can be taught in other ways, the onset and rime approach builds on a beginning reader's existing language base. (p. 123)

Peterson and Haines, however, question how their individual training techniques could be transferred to the classroom and suggest that teachers use scaffolding techniques to "assist the learner to acquire the analogy strategy as one ingredient in the complex repertoire of knowledge, skills, and strategies that combine to promote literacy acquisition" (p. 124).

Citing previous research which indicated that children's ability to recognize rimes enabled them to read words by analogy, Ehri and Robbins (1992) further investigated the beginning reading skills possessed by children who could read words by analogy. They hypothesized that some recoding skill

is necessary to read words by analogy and that children who could decode would be able to read words by analogy easier than reading words phonemically. To test these hypotheses, they assessed kindergarten and first grade children on their recoding skills of preprimer words and CVC nonwords and their knowledge of letter names to determine decoders and nondecoders. The children then were randomly assigned to a control or experimental (analogy) group, 54 in the control group and 48 in the analogy group; they were seen individually for testing and training in two or three sessions lasting 15 to 20 minutes.

Children in both groups engaged in word-training tasks, followed by a transfer task and, at the end of the experiment, a spelling task. In the word-training task, children were first introduced to the depiction of long vowels (double vowel letters with a line drawn over them, $\overline{AA}$) in five nonwords, with the explanation that "the line tells you that the letters say their own name in the word" (p. 16). Long vowels were selected because of the likelihood that prereaders would know some letter names and would not be intimidated by the tasks. Next the children were taught five training words to criterion, during which the experimenter presented each word on a card, read the word, and used the word in a sentence; the child was asked to repeat the word. Training continued until the child met the criterion for learning, which was the ability in a trial test to read the words perfectly four times in succession. The transfer task of five different words all beginning with the letter S was given after the final training trial test. The transfer task for the analogy group had the same rimes as the training words; the transfer task for the control group had different rimes but the same letter-sound correspondence. The children were told that the transfer words were new but that these words had the same letters following the letter S that the children had seen before. The child was directed to: "Look at each word and try to read it by remembering how you read the other words. If you don't know what it says, try to figure it out" (pp. 16-17). After this transfer test, a word study trial was given on the transfer words, followed by a trial test. In the spelling task, the children were asked to write the words they had just read, which the experimenter pronounced and used in a sentence. The spelling task was given to determine the recall from memory of the words.

After the posttest data were collected, a matching procedure established that the groups were similar in the number of decoders and nondecoders. No significant differences were found between the groups on the pretest data.

The posttest data revealed that the decoders in the analogy group read significantly more words on the transfer task than the decoders in the control group. This result supports previous research findings, which indicated that reading unfamiliar words by analogy is easier for beginners than letter-sound recoding. However, the additional finding in this research of no significant difference between the nondecoders in the analogy and control groups indicates that some recoding skill is required in reading words by analogy. The researchers explain that in reading words by analogy, the child draws upon a familiar rime from memory to figure out an unfamiliar word rather than having to blend phonemes. In elaboration the researchers state:

> Analogical relations between known and new words help readers read the new words when their ability to recode phonemically the words is limited. Analogical relations contribute by eliminating the need to blend phonemes in the rimes of new words because the blended rimes are supplied by readers' memory for known words. This contribution is significant since blending is known to be a difficult operation in the decoding process." (p. 22)

There was no significant difference between decoders and between nondecoders on the spelling recall test. This finding indicated that even beginning readers remember words and draw upon this memory in writing words; thus, the researchers concluded that "reading and spelling processes are closely related at the outset of learning to read and spell" (p. 24).

Walton (1995) investigated whether orthographic analogy or letter-sound recoding is primary in beginning reading. On the basis of pretests on rhyming, phoneme identity, and letter-sound corre-

spondence, 66 prereading kindergartners were classified as being high or low in prereading skills. They then were randomly assigned to one of three treatment groups, the conditions of which were designed as follows:

> The conditions were designed to examine whether prereaders could read new words using orthographic analogy after brief teaching with rhyming words (intact-spelling condition) and whether reading by analogy would be enhanced either by phonological teaching in onset and rime (phonological condition) or by using words with the spelling segmented (segmented-spelling condition). (p. 589)

The treatment sessions, which lasted five minutes and included the use of puppets, consisted of learning four sets of teaching words, followed by testing of two tests of words: (1) words that could be read by analogy to the teaching words (one set being *bed* and *rat*), and (2) words that required letter-sound recoding related to the teaching words (one set being *bad* and *bet*). The intact-spelling group received training on four sets of rhyming words, with one set being *bat, mat, red, ted*; the phonological group received the same training, but with the added teaching of the related onsets and rimes; the segmented-spelling group received training in which the words were presented in segmented arrangement, with only one beginning consonant for each set being taught (one set being, *b, at, bat, ed, red*), and with the teaching segments and words being present during the testing.

The results showed that significantly more children were successful in reading the test words by analogy than by letter-sound recoding. The groups did not differ significantly on the test of reading words by letter-sound recoding. The high segmented-spelling group scored highest in reading words by analogy, which the researcher said was "evidence that segmenting the teaching items at the onset and rime boundary aided the reading of analogy-reading test words" (p. 592). The fact that the phonological and intact-spelling groups did not differ in reading words by analogy indicated that adding onset-rime training did not make a difference in reading words by analogy. In comparing this result with that of previous research that did find a significant effect of onset-rime training, Walton explains that the difference might reflect the difference in the length of training, with his training being much briefer ("two to four 5-min sessions over two days" [p. 59]) than that of previous research, in which the training of one study consisted of seven 15-minute sessions over a period of one month. An examination of errors revealed that "children identified the sound of the final phoneme and then used that information to make an orthographic analogy based on the sound of the rime in a teaching word" (p. 594); for example, reading *bed*, which was a teaching word, for *bad*, a word on the letter-sound test. This final sound analogy reading could also account for correct responses on the analogy-reading test.

An examination of the effects of the children's prereading skills revealed that the high scoring children on the pretests also scored high on the analogy test, with the difference between high and low pretest scoring children being less on the letter-sound test. The data also gave evidence that children's ability to rhyme words "does make an independent contribution to beginning reading" (p. 593).

Walton concludes:

> The study produced evidence that children with high prereading skills can make orthographic analogies based on rhyming when beginning to read. However, the findings are best accounted for by a model of beginning reading that incorporates the ability to identify phonemes in final positions when reading by analogy. This represents a synthesis of both the Ehri and the Goswani and Bryant models of beginning reading [the former based on some recoding and the latter based on orthographic analogy reading]. (p. 596)

Letter-Sound Correspondence

Tunmer and Hoover (1993) state that "Phonological recoding skill, or cipher knowledge, may be defined as the ability to translate letters and letter patterns into phonological forms" (p. 161). Noting that the knowledge of phonics rules is not the same as cipher knowledge, the researchers state

"Metacognitive approaches to instruction in phonological recoding skill place particular emphasis on making beginning readers *conceptually* aware of the interrelatedness of the visual patterns and sounds shared by different words" (p.165).

Tumner and Hoover view phonological awareness as the ability to consider and maneuver the phonemic speech segments, which is considered a cognitive criterion for obtaining skill in phonological recoding. Children begin to distinguish their first written words by depending on visually-based tactics along with hints from the context. Children must begin to use the correspondence between spoken and written language systematically in order to move beyond the beginning reading stage(p.168). The researchers found that systematic rather than incidental instruction is more effective and that the direct instruction in phonological recoding skill produces better results than relying on indirect instruction,such as writing activities, as the primary means of developing knowledge of the alphabetic code.

A small but in-depth study of six children, as they moved from kindergarten through first grade, was conducted by McIntryre and Freppon, (1994). Three children were in whole language classes and three in skills-based classes. The six teachers were experienced and dedicated. All children learned alphabetic concepts and skills during their first two years in school. Those from the skill-based classrooms "exhibited alphabetic knowledge when they decoded isolated words in basal sentences," (p. 401), while those from the whole language classrooms "used their alphabetic knowledge to read literature and to write extensively on self-selected topics daily" (403). All the children studied print. This study reenforced the research based concept that, as part of their emerging literacy, children pass through a stage when they consciously pay attention to sounds and sound-symbol associations to words before they begin conventional reading and writing. The rates of and depth of their learning "confirms research that suggests some alphabetic knowledge is essential to becoming conventionally literate" (p.412). McIntyre and Freppon found that their research supports earlier findings "that phonics instruction is a necessary ingredient in beginning reading instruction." They found that "such instruction can successfully take place in very different instructional contexts" (p. 414).

To study the development of phonological recoding and phonemic awareness, Vandervelden and Siegel (1995) conducted two studies with samples of kindergarten, first grade, and second grade students, 36 in each sample. The first study investigated skills of phonological recoding, specifically: letter name knowledge; initial and final consonant-sound recognition and medial vowel-sound recognition, which were assessed through a "speech-to-print" (p. 860) task in which the child hears or says a word and then selects the matching word card from a set of three picture and word cards; a pseudoword (nonword) reading task, which was included to assess letter-sound retrieval strategies; and a spelling task. All three tasks were scored for correct initial consonant, final consonant, and vowel, which were their respective recoding scores. The study also included a word learning task, in which related picture and word cards were used to teach children six words, and a word reading task, in which children read words from two reading tests, one of which was from a standardized test.

The results revealed a developmental progression by grade in all measures and a developmental progression in recoding skills. At the three grade levels, recoding achievement occurred first with the initial consonant, then the final consonant, and last the medial vowel. A progression existed at all three grade levels in the tasks, with the easiest being the speech-to-print task, then spelling, and finally pseudoword reading; the pseudoword task was also scored for partial and complete correct reading. There was a significant difference between the recoding scores of the recognition speech-to-print task and the retrieval pseudoword reading task. This latter finding, according to the researchers, "indicates that partial recognition use of phonological recoding when children hear and see words simultaneously develops before partial use of phonological recoding as a retrieval strategy for pronunciations in pseudoword reading" (p. 2). Spelling and speech-to-print scores were significant only for vowels in Grade 1 and 2 and for initial consonants in Grade 2. At kindergarten there was very little difference between the these scores. The

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researchers attribute the commensurate recoding scores for the spelling and speech-to-print tasks to the possible role of invented spelling that was used in the classrooms.

Morrow and Tracey (1997) trained teachers to observe and record all incidents of phonics instruction during a four month period. Students were from preschool to second grade and from varied socioeconomic, racial, and ethnic groups. Teacher comments were compared with observations of actual practice and then categorized. They found that in preschool most instruction was contextual and spontaneous. The older children had mostly explicit instruction with cards and worksheets. The use of combined contextual and explicit instruction was rare. It was found that preschool teachers taught more phonics than they reported; K-2 teachers generally taught in the ways they reported. Morrow and Tracey concluded that a strong foundation in letter-sound relationships is important for the success in reading and writing development. They further thought that teachers need to observe and reflect to select the best for their class.

Eddows (1990) conducted a study that compared the use of a structured phonics method and a more child-centered approach as used in two kindergartens. The study involved the children in the two classes one year using the structured program and the same teachers with different children using the less structured program the following year. The teachers administered a standardized achievement test both years. Teachers reported that, although test scores showed no difference, there were "noticeable differences in the overall atmosphere of the classroom related to interest and motivation" (p. 221). Using the standardized test, Eddows found no difference in the scores on any language subtests. Teachers reported that the children appeared more socially involved and motivated using the child-centered program. Eddows thought that "instead of standardized tests, a more realistic means of assessment might include systematic observations of the children as they are involved in reading and writing activities" (p. 222).

What is good phonics instruction is an ongoing question asked by teachers, administrators, professors and researchers. S. Stahl, Duffy-Hester and K. Stahl (1998) answer the question based on their research. They state that, among other factors, good phonics instruction must foster the alphabetic principle and phonological awareness. They include rhyming, word-to-word matching, sound-to word matching, initial and final sounds, blending, and deletion and manipulation of sounds as part of phonological awareness. The training should also include a "thorough grounding in the letters" (p. 341) and have adequate word reading practice of words in isolation and in stories. Good phonics does not "teach rules, need not use worksheets, should not dominate instruction, and does not have to be boring" (p. 341). Good phonics instruction should develop word recognition and be only part of the whole reading program.

PHONOLOGICAL RECODING ASSESSMENT

According to Rhodes and Shanklin (1993), children are reading and writing long before they enter school.... No longer should these activities be labeled as "prereading" or "prewriting." Their nonconventional text reading does not relate well to conventional assessment of emergent writers and readers. Emergent reading and writing assessment develops descriptive student literacy evaluation over time and in a variety of literacy environments. The assessments should be used to develop instructional plans for each student and for the group. The assessment can also be used for communicating student growth to parents, administrators, and others.Young children learn a variety of sub skills as they are being read to, selecting food from shelves or sending cards to relatives, for example. As children are engaged in these informal literacy activities, and as they see adults engaged in print, they will ask questions about print and begin to develop print awareness. Literacy assessment must include a variety of situations, be an essential instructional component, and focus on process as well as products. Much readiness testing does not mirror these necessities of emergent literacy assessment. Most tests are given to groups not individuals, are long, require bubble fill-in, and stress only sound-symbol skills. Formal tests give young children little oppor-

tunity to demonstrate their emergent literacy development. These common assessments lead teachers to misinterpret what the students have learned concerning literacy. Emergent reading assessment must produce information that lets the adults know about students' familiarity with literature, what the student defines as reading and writing, what the student reads and writes in settings beyond school, and how well the student recalls stories. Among other areas that assessments need to address are whether or not the student can dictate stories, attend to print, directionality, word sense, ability to pretend read, phonemic development and whether or not the student can name some letters. Early literacy assessment should include environmental print, read-alouds, shared reading and writing, talking about reading and writing, and talking about children's drawings.

Summary

Phonological recoding involves letter identity, phonetic cue reading, orthographic analogies, and letter-sound correspondence. Through knowing letter names, children engage in phonetic cue reading as they apply the name of the letter to figure out a word. Children gain insight into the alphabetic principle through phoneme identity. Analogy reading allows children who are not yet able to recode words phonemically to read words because the blending is done for them in the known rime. Analogy training based on onset-rime units had positive effects in relation to children's segmentation ability and letter-sound knowledge. As stated earlier, when children begin to use letter-sound correspondences in recoding, they are using the alphabetic principle and are in the stage of actual reading. The importance of teaching letter-sound correspondences was explicitly demonstrated in research; however, research also indicates that such instruction can be successful in different formats. Phonological assessment should include descriptive student literacy evaluations over time and in a variety of literacy environments. Phonological recoding instruction, as with phonemic awareness instruction, should be a part of a whole reading program, which includes adults reading to children, children reading, and children engaging in book-related dramatic play. Books, dramatic play, and explicit instruction of phonological processing do, indeed, make a difference.

Chapter 5

Development of Writing

This chapter reviews research that focuses on three aspects of emergent writing: the mastery of form, awareness of function, and cognitive strategies evidenced during writing behaviors (see Figure 1, p. 4). A summary of the research about the components of a supportive context for writing development and a summary of the research about spelling development are also presented. This chapter begins, as previous chapters, with a summary of the research about writing development reported by the National Research Council (NRC) in their report. NRC viewed literacy broadly and, therefore, writing was considered an integral part of their discussion about reading. Because all literacy activities include "the use of the products and principles of the writing system to get at the meaning of a written text" (p. 42) writing was not treated as a separate database. Therefore, a summary of findings noted throughout the NRC review pertaining to writing is presented next.

NRC Report

Research Review

Recognition of a developmental continuum that varies among the individuals precludes any list of accomplishments that is age specific. However, within the first three years, children often show interest in graphic representations that are meaningful, such as their name and environmental print. Children from two to three years of age can be expected to produce drawing-like scribbles and forms that resemble letters of the English language.

An analysis of such nonconventional writings indicate that children begin to abstract concepts about print very early in their development. For example, their scribbles and nonphonetic letter strings reflect an understanding of linearity and the use of recursive features. The research confirms that these highly sophisticated conceptual understandings about print occur through playful and exploratory activities.

By the age of four, children's rapid growth in writing is evident in their varied writing experiences such as scribbling, drawing letter-like forms, and forming random strings of letters. Some children begin to identify sounds of letters and use this knowledge in invented spellings. English-speaking children demonstrate this knowledge mainly with initial consonants, while Spanish-speaking children tend to use vowels.

Rapid development is noticeable between the ages of four and six years. At this age children use many forms of writing, which they "read," including scribbles, drawings as orthographic representations, and nonphonemic letter strings. Even with these unconventional compositions, children appear to have a plan and tend to have their plan in mind when they "read" their work to an adult. Those children who are allowed to use their growing knowledge of letters, sounds, and words use them in creative and inventive ways. As children's writing develops, they express a need to "write it the right way" and often insist on conventional spellings. Children write more in environments that offer ready access to writing materials, e.g., paper, markers, pencils, and stamp pads, and where teachers actively participate and guide children's use of writing materials to facilitate literacy development. The NRC report concludes that it is important to encourage children, as soon as they know some letters of the alphabet, to write words or parts of words and use them to write sentences. Such activities promote identity and segmentation of speech sounds. Writing activities should occur frequently because the process of writing promotes letter knowledge and phonological awareness. Letter knowledge and phonological awareness are skills key to children's success in learning to read in the first grade and are also critical to the effectiveness of prereading activities. The process of writing pro-

motes letter knowledge and phonological awareness.

The NRC report repeatedly mentioned the importance of offering opportunities for young children to write on a daily basis. Such opportunities include composing and writing independently in playful and thematic settings. Labeling and posting captions on children's art productions offer children opportunities to understand print concepts such as the idea that individual words are separated by spaces in print and that the end of a line is not always the end of a thought.

The benefits of print-rich environments are enhanced when the teacher actively guides the children in using literacy materials and points out the consistency in the order of letters each time the word appears. Studies show that children who received teacher guidance were able to recognize words presented in a list without graphics or context.

Studies also indicate that in writing activities children use phonological analysis when they attempt to spell words. It is now well documented that children's letter knowledge and phonological awareness skills are key to their success in learning to read in first grade.

Additional Research and Information Writing

The first set of studies presented in this section primarily addresses questions related to the forms of emergent writing, i.e., children's ability to produce recognizable letters. The next set of studies looks at children's awareness of the function of writing, i.e., their understanding of the basic concepts and uses of print. The third data set examines metacognition and metalinguistic knowledge. As indicated previously, however, such lines of division are arbitrarily set for organizational purposes. Research frequently examines both form and function.

Forms of Emergent Writing

Clay's seminal work (1975) identified a variety of writing forms from children's writing samples, e.g., drawings, scribbles, strings of letters, invented spellings, and conventional spellings. Interest in children's writing forms became the focus of research for the next decade. Was there a linear, hierarchical progression or was there a recursive pattern of use until children reach a level of conventional spelling? Are there forms of writing that are situated in a specific context or do children's forms of writing change over time in a consistent manner?

Ferreiro (1978) studied Mexican and Argentinian children's writings and originally identified five levels of writing development. A spate of research followed to determine if English-speaking children's writing development was similar to the hierarchical progression described by Ferreiro and Teberosky (1982). For example, Sulzby with different colleagues investigated children's use of different forms of writing and how the children reread from these forms. Research investigating emergent forms of writing often involved one-to-one interviews. Sulzby (1985b) found the forms children used when writing stories as a group classroom activity differed from those written in one-to-one interviews. In the interviews when children were asked to write stories, they often used nonconventional forms such as scribbling, drawing, and inventive spelling. She further found that children used a less mature form of writing to accomplish a more mature compositional task and that the child's rereading of the task often reflected a high level (Sulzby & Teale, 1991).

Sulzby, Barnhart, and Hieshima (1989) then conducted a study which involved 123 kindergarteners in five classrooms.She collected eight samples written in the classroom over an eight month period and three other samples in individual interviews which were collected quarterly. Her findings indicate that several forms of writing appear very early in development and that those immature forms continue to reappear as late as age six.

The classroom sessions also produced copies of environmental print. Children who used random or patterned letter strings may have copied parts of these strings. These behaviors often go undetected. Children who appeared to have produced a conventional or an invented spelling may instead have copied the form. Copying has been recognized as a form of exploration of letters forms and letter names and has been used in composition writing.

Patterns of scribbles previously recognized in invented spellings were noted, e.g., spaces with hyphens, darkened blocks, column display, large dots. Also some children were observed rereading the

same scribble and reciting the same words for the scribble. Invented spelling appears much later in most children than expected and is more complex than expected. Invented spelling may be used for isolated words or brief phrases; however, it is used less often for longer compositions.

Two subcategories of invented spelling are syllabic (when there is the use of one letter per syllable) and full invented spelling (when there is one letter used per phoneme). A third category, intermediate, is a catch-all category that refers to anything in the middle of syllabic and full invented spelling. The point at which the child shifts was unknown. (See Kamii & Manning, 1999 study that follows.) Sulzby et al. summarized their conclusions by noting that:

- Children use a preponderance of low-level writing forms at the beginning of kindergarten. These forms change very slowly over the year.
- Children who reread their scribbling are demonstrating much literacy growth.
- Children's first use of invented spelling was not considered to be a sign of a shift to alphabetic reasoning. (p. 47)

Kamii, Long, Manning, and Manning (1990) conducted a study to determine if English-speaking American children go through the same developmental levels as Spanish-speaking children. One hundred ninety-two kindergartners were asked to write eight words that were not in their instructional program but were familiar to them. The analyses of the American children's writings reflected similar levels Ferreiro and her colleagues described for the Spanish-speaking children. At Level 1, American children wrote strings of letters of varying lengths but the strings of letters look similar. At Level 2, the words have a fixed number of characters, no matter what the length of the word. Kamii et al. found differences between the two groups at Level 3. English-speaking children used only consonant letters for consonant sounds without writing any vowels. In contrast, Spanish-speaking children at Level 3 wrote two squiggles for a two-syllable word and three squiggles for a three-syllable word. Spanish differs from English in that syllables and vowel sounds are much clearer in Spanish than in English. The two groups at Level 4 (the highest level) were similar in that the children began to show considerable knowledge of conventional grapheme-phoneme correspondences.

Kamii and Manning (1999) wanted to determine the point at which English-speaking children become aware that writing is related to the sounds of speech. In their previous study, children at Level 3 indicated such awareness but these children all demonstrated grapheme-phoneme correspondences. Fifty-seven kindergarten children from a public school participated in this study. Sixty percent of the children received free lunches. Half of the children were Caucasian and half were African American. They all received reading and writing instruction.

Four pairs of words were orally presented to individual children. Each pair included a short word and a longer word that included the short word, e.g., ham, hamster. Two pairs had the same sounds at the beginning and two pairs had the same sounds at the end of the words. Each child was interviewed four times during the school year: October, early January, mid-February, and at the end of March. The four levels previously used to categorize the children's writings guided the analysis. An additional level (2Y) was included to distinguish those who wrote more letters for the longer of the pair of words. Kamii and Manning also categorized the children's writings according to whether they used the same letter(s) for the parts of the words that sound the same and whether they spelled those letters conventionally.

At the end of March, the findings showed that the majority of the children were at Level 2 (writing the same number of letters) and 2Y (writing more letters for the longer of the pair) throughout the year, although some children did move from Level 2 to Level 2Y. Very few (3) moved to Levels 3 and 4. Kamii and Manning concluded that children construct a theory at Level 2 about how writing works, i.e., that all words are written with a fixed number of letters (perhaps 3, 4, or 5) and that the words have to look different. Movement from Level 2 to 2Y occurs when children shift their attention from what writing looks like to how writing is related to the sounds of speech. This study identified the developmental step before Level 3 as invented spelling.

Vernon (1993) conducted a study with similar purposes to the Kamii et al. study. Vernon examined

whether monolingual English-speaking children's emergent writing is similar to the development of Spanish-speaking children. In addition, she wanted to know whether English-speaking children constructed a syllabic hypothesis or whether they constructed a consonantal hypothesis as the Kamii et al. study (1990) indicated. Vernon's study was also guided by the works of Ferriero and her colleagues. Ferriero had concluded that Spanish-speaking children use the syllabic hypothesis to construct their first letter-sound correspondences. This means that they used one character to represent each syllable as a means to control the number of letters needed to write any given word. Spanish-speaking children used vowels to represent syllables. Kamii et al. (1990) concluded that English-speaking children used consonants. The English language has many more monosyllabic words than the Spanish language. This suggested that one letter would be used to represent that word. However, children also constructed the theory that words have a minimum of letters, and they believe that isolated letters would not be "readable."

Vernon interviewed 49 preschool and kindergarten children from a parochial school preschool and kindergarten class and from a public magnet school. All children were interviewed at the beginning of the school year. Each child was individually asked to write his or her name. They were then asked to write some individual words, some two word phrases, and two short sentences comprised of three and five words. The children's written productions were then analyzed to code in the appropriate levels.

The results of this study indicated that 76% (n=37) of the children met the criteria for Level 3. Both Spanish and English-speaking children begin to make letter-sound correspondences as a way of controlling the variations in the number of characters they use. Therefore, they use any letter to represent any syllable. As children's understandings develop, they make one-to-one correspondences between written characters and oral syllables. At the point of development when they begin to match each oral syllable to a pertinent letter, children reach the apex of this level. Spanish-speaking children usually choose vowels to represent syllables. Consonants appear to dominate English-speaking children's writings. Kamii, Long, Manning and Manning concluded that these consonants are representing phonemes. Vernon disagrees, stating instead that children do not show that they are trying to make a phonetical contrast between vowels and consonants in their writing. Instead, letters are meant to represent syllables.

Vernon concluded that there is some similarity between early literacy development in several languages. Instruction, Vernon states, does not determine the way children construct their knowledge about writing. In other words, children may know the alphabet but may be unable to use this information until they have constructed a syllabic hypothesis.

Children's names are often the first word they learn to read. However, it is not clear how children use their names to extend their literacy knowledge. Some may write and read their name but do not apply this information to other written forms. Some may use their name as a tool to understanding other literacy concepts such as the alphabet, sound-symbol relations, a word. Bloodgate (1999) developed a study in which one of the objectives was to discover what use, if any, children make of literacy knowledge derived from their names.

Bloodgate's study involved 67 children ranging in ages three to six-and-a-half years. The 3- and 4-year-olds attended a private Christian preschool (n=23) and the remaining children (n=27) attended a public school kindergarten class. The preschool group was comprised of children from educated, professional, mostly Caucasian families. The kindergarten children were mostly (70%) African American and about 90% received free or reduced rate lunches. Little formal academic instruction was offered to the preschoolers; however, the kindergarten children received direct and focused literacy instruction in small groups. Several pretest measures, including a standardized literacy assessment, were given to all participants. Three tasks were administered to evaluate name recognition and production: 1) the children were asked to write their names; 2) children were presented with name cards and asked to identify the names; 3) children wrote their name as the letters were dictated to them. The children were also asked to draw a picture and write a story about their pic-

ture. Writing samples were continually collected throughout this year-long study and qualitatively evaluated to assess development over time. Also, six children and their parents were interviewed over the course of this study.

The patterns of literacy development demonstrated in the pre- and posttests and writing samples suggested that the ability of the children to write their name seemed closely related to, and indicative of, other literacy competencies. This was especially evident with the 3-year-olds who showed greater adeptness in recognizing and writing their own names than in any of the other literacy tasks asked of them. Several of the 3-year-olds were using recognizable letter forms. At the end of the year, the 3-year-olds were identifying letters that were in their names or from the names of family members or classmates. These children also could distinguish between drawing and writing and used linear scribbles to indicate text but included recognizable letter forms when representing their names. Names were the most meaningful aspects of print for many of the 3-year-olds.

The 4- and 5-year-old groups were comparable in their literacy growth despite the one year difference. Other than their names, both groups had almost no known words in the fall and were unable to track speech in print. A qualitative analysis of the writing sample over the year indicated that name letters comprised 41% of the 4,818 characters present. Most children represented letters from their own names in 30 to 50% of their random-letter writing.

Bloodgate drew several conclusions from her study. Name production ability and alphabet knowledge appear to develop in concert for most children, regardless of age. Some children gain greater control of the alphabet and their name than they are able to produce, while others may have the written pattern in place but lack names for the separate letters. That is, some children can identify the letters in their name and other letters of the alphabet without being able to produce these letters on paper; other children can write the strings of letters that represent their names but are unable to identify the individual letters that are in their names. Also, knowledge of one's name plays a significant role in early writing development prior to awareness of letter-sound connections. Names offer a safe source from which children experiment with letter formation, concepts of directionality and orientation.

Understanding Writing Functions

The research thus presented are product-oriented investigations of children's development as writers.The studies in the following section represent examples of research about children's awareness of the purposes served by and value attributed to writing and writing events.

Freeman and Sanders (1989) addressed two questions: 1) what are kindergarten children's concepts of the functions and value of writing in the community context; and 2) are kindergarten children able to identify who is writing, what is written, and why people write? Ten boys and 10 girls were randomly selected to participate in this study. They were between five years, seven months and six years, seven months. They attended a public elementary school where 20 percent of the children received free lunches. Six videotaped sequences of children and adults in a variety of community settings common to life in this midwestern town were shown to each participant. The interviews that followed lasted approximately 20 minutes during which time three of the videotapes were randomly selected and shown. After each viewing, the child was asked a series of open-ended questions. Their responses were tape recorded. The tape recordings of 60 protocols were transcribed and analyzed. Categories were generated regarding the functions of writing from the children's perspective. Emerging patterns were identified.

The children were able to state who was writing, where they were writing, and what was written. These children correctly labeled *letter*, *check*, *homework*, *list*, *prescription*, and *note*. A variety of writing functions were identified. The category most children identified (n=17) was *communicating with others*. Several subcategories emerged from this broad category: writing a letter or sending a personal message to someone, identifying oneself to others, relaying a message from one person to another, making various types of transactions. Thirteen participants identified memory as a writing function. This is of particular interest because children themselves do not write things down to remember; however,

they recognized that writing both serves to prevent people from forgetting and to help them remember when they do forget. Nine children related writing to its use in learning and school-related tasks. Eighteen of the 20 knew that writing involved an audience.

To study the changing role of writing in children's narratives, Dyson (1988) conducted a two-year study as an observer-participant in an urban kindergarten and first/second grade classroom. In this qualitative study, Dyson's analyses of children's narratives demonstrated how young writers move fluidly among three worlds, their imaginary, social and experienced worlds, constantly negotiating the three in order to organize their textual worlds.

Dyson chose four kindergarten and four first graders for case studies conducted during the first year. These children were between five and six years of age and differed in ethnicity. Four of the children were males and four were females. Audiotapes, journal writings and handwritten field notes completed the data set. Analyses of the data took place in four phases: kindergarten data collected in year 1; first grade data collected in year 1; the first and second grade data collected in year 2, and additional analyses of all collected data. Dyson offers the classroom teacher a view of early writing processes that develop in relation to children's social and experienced worlds. Her research analyses teaches us of the need to broaden their view of writing development to consider not only cognitive and linguistic strategies for creating coherent written texts but also to recognize the integral role of the social setting in writing development.

Dyson's detailed case studies also offer a view of children's early writings as both narrative and nonnarrative. The conventional view has always considered young children's writings as predominantly narrative. Dyson's case studies offered much more than imaginative text as the children revealed their thoughts and feelings about their real world as opposed to their imaginative world. She concludes that both narrative and nonnarrative forms are integral to children's growth as creators of imaginative texts.

What information do peers offer each other about written language during playtime? To address this question, Vukelich (1993) observed four literacy-enriched play settings over a 4-month period in one kindergarten classroom. Field notes, audiotapes and videotapes were included in collecting the data. Transcripts of the audiotapes and videotapes were completed and analyses of the verbatim language and physical responses of the children were conducted.

Analyses of 231 peer writing related interactions revealed that three different kinds of writing information were provided by peers to peers in the play settings. One type dealt with the functions of writing. Examples of various purposes of writing included the following: (1) writing to help remember, (2) writing to control other's behavior, (3) writing to announce events, (4) writing to record a person's presence, (5) writing to get things or help others get things, (6) writing to share what you know with others. The planned play environments offered the children a frame for their writing. Play settings included a shoe store, a veterinary hospital, a restaurant, and a camp site. Props, signs, and literacy materials relevant to the setting were important in promoting functional understandings. For example, the restaurant was one play setting in which children signed their name in their reservation book and wrote down the child's food order and the cost of the meal.

Although a link between writing opportunities in the classroom and literacy development has been established (Snow et al., 1998), data show that many classrooms neglect writing opportunities. Rowell (1989) observed 67 prekindergartens in two New England states to study provisions in the classroom for literacy development and materials available for literacy enhancement. The data revealed the following in relation to facilitating understanding of writing functions:

- Fewer than a third of the classrooms had writing centers and half of those that had writing centers were fully equipped.
- Although most of the classrooms had labels and posters displayed, teachers and students were rarely observed utilizing them.
- Most classrooms had creative play centers which were mostly housekeeping units. Fewer than one-fifth of these areas had environmental print items.
- Children either were directed to write, encour-

aged to write, or chose to write in 52% of the classrooms. The most frequent activities focused on practicing names or the letters of the week. Children copied their names or traced over them on ditto sheets. Children in a few classrooms were required to write words or phrases on holiday cards.

- Ten percent of the classrooms were observed in language experience activities, most of which involved children's dictation related to a theme.

A neglected area in research about young children that is relevant to a discussion about writing functions is genre development. Kamberelis (1999) investigated children's working knowledge of different genres to determine differences that exist among kindergarten, first grade, and second grade children. He also wanted to explore development of genre knowledge by studying their texts and metadiscourse about their texts.

Kamberelis conducted an extensive analyses of children's compositions in three genres from 16 kindergartners, 20 first graders, and 18 second graders. The children were racially/culturally and socially/economically diverse; the three teachers shared similar philosophies, pedagogical goals, and teaching practices. Each subject was requested and readily agreed to write a story, science report, and poem over three individual writing sessions. There was some familiarity with these genres as they were part of their language arts programs. The compositions were individually produced within a 20-30 minute session. Each child read his or her composition and then answered questions about the kind of text written and about where the ideas for the text came from. Each child was asked to reread the composition before going back to the classroom. The writing sessions were audio taped and transcribed.

Findings from this research study strongly indicate a working knowledge of the narrative genre and a much less developed understanding of informational and poetic genres. Children's stories (88%) were much more well formed as indicated by the presence of the necessary elements of this genre. By contrast only 48% of the science reports and 51% of the poems contained the necessary elements.

Kamberelis identified the following typical elements as necessary and "obligatory" in narrative text: "initiating event [in which] the conflict or problem in the story emerges; sequent event [in which] a recounting of the character(s) attempts to resolve the problem or conflict; [and] final event [in which] the conflict or problem is resolved or not resolved" (p. 419). An opening that includes the setting and introduces the characters is an "optional" element, as is a finale in which the story goes forth from the problem solution.

Typical elements of the expository or informational text structure that are necessary and obligatory include the following:

> *Topic Presentation:* The topic or theme of the text is presented or introduced.
>
> *Description of Attributes:* A description of the attributes of the class or topic of the text is presented and elaborated.
>
> *Characteristic Events:* Characteristic events, activities, or processes related to the topic are expressed, discussed, or explained.
>
> *Final Summary:* Summary statements are made about the information covered in the text. (p. 419-420)

Elements for poetic text structure vary. However, Kamberelis identified three structural features that most frequently appear in the writing of theorists of poetic language: "line structure, stanza structure, and rhythm or meter" (p. 420). The line, rather than the sentence, is the basic unit of poetry, and series of lines are organized in stanzas. The major element of poetry is *meter*, the repeated rhythm made by the sounds in the words and expressions of a poem.

Kamberelis reported that there were numerous "hybrid" genres written in response to the report-writing task and poem-writing task. Some children combined story or poetic elements and information elements in their science reports.

Few significant grade level differences were found between the kindergartners' reports and poems and those of the first- and second-grade children. One explanation for this finding was that all the children spent "a tremendous amount of time and energy on formal dimensions of writing and text production" (p. 445), e.g., letter formation, spelling capitalization, punctuation, and syntax. Another explanation

offered was related to textual features which appear to have developed very early, e.g., verb tense, co-referentiality, specialized narrative discourse.

Kamberelis noted that children's experience with genres outside of the narrative was very limited. Their primary mode of reading material was storybooks, outnumbering both information and poetry books more than 5 to 1. Also, their teachers used more technical metadiscourse when discussing narrative genres than informational genres or poetic genres. He additionally points out that many children's information books embed scientific information with a narrative genre, perhaps because expository texts have a reputation of being "boring" (p. 453). Kamberelis concluded that the early years of schooling were particularly important for the development of scientific and poetic genres.

Cognitive strategies

Research has suggested that good writers monitor their thought processes, assess a problem, develop a strategy to solve that problem, and evaluate their success or failure. Planning processes such as these are aspects of metacognition, i.e., an ability to appraise and manage one's own cognitive processes and products. Although there is an extensive body of research available about children's metacognition and literacy, those studies focus on children who are readers. There was a widespread belief that preschoolers lack the ability to monitor their own thought processes. Metacognition, in general, was not attributed to young children. Recent evidence is available, however, that suggests preschoolers' use metacognitive strategies in a wide array of literacy behaviors, including writing. This section presents a review of selected research about preschoolers' emergent metacognition skills.

Fang and Cox (1999) investigated emergent metacognition by analyzing preschoolers' utterances during dictation and further examining the relationship between children's metacognition and the quality of the texts they produce. This study included 44 4- and 5-year-olds who were classified as emergent readers according to Sulzby's emergent reading categories. Each child was first asked by a familiar adult to relate an oral story that was based on a personal experience. The adult then commented on the high quality of the story and invited the child to dictate the story for children to read. Each session was audiotaped and transcribed. This task requires that the child distinguish between oral and written discourses and make appropriate changes for the invisible readers. Opportunities for the child to review, monitor, and edit the text were available since the child was not responsible for the mechanical demands of the writing nor did the child have to create an imaginable tale.

All utterances during the dictation that were not part of the story and that suggested self-monitoring were analyzed. Such utterances fell into three categories: (a) attempting, implicitly or explicitly, to plan the dictation, or (b) monitoring the dictating process, or (c) regulating the comprehensibility of the text for a reader-audience.

Analyses of the data showed a positive correlation between self-management and the quality of the dictated texts. In other words, children who were cognitively active in strategic planning before dictation, monitoring during dictation and regulating their own or the adult's behavior to address a reader-audience's needs produced better quality texts.

Neuman and Roskos (1997) also studied metacognitive functions in relation to literacy activities. Thirty preschoolers, ages three and four, from a federally funded Even Start program participated in this study. Three literacy-related play areas (a post office, a restaurant, and a doctor's office) were specifically designed as a backdrop for this study. These environments offered situations that were familiar to the children, provided materials that were culturally relevant in order to promote advanced thinking, and allowed for goal-directed and purposeful activities which best demonstrate cognitive competence. This study took place over a seven-month period beginning in November. The children's play sequences were observed, videotaped, and weekly informal conversations with the teachers were included. Six types of strategies were identified from the collected data: a) seeking information, b) correcting, c) self-correcting, d) assigning roles and resources, e) checking, and f) gathering resources. This study offers many transcribed vignettes of the children's conversations as examples of the six types of strategies. Seeking information and assigning roles and resources were

used most frequently, followed by correcting, gathering resources, and checking information with peers. Self-correcting was the least common among the strategic behaviors. Neuman and Roskos concluded that, in the context of everyday settings which naturally provided opportunities for children to use strategies to examine, reexamine, and solve problems together, preschool children demonstrated metacognition. These strategic behaviors, embedded in familiar settings with authentic objects and people who provided accessible representations and materials, e.g., clipboard, pencils, paper, may not have been demonstrated in traditional classroom settings. Strategy use in this study was dependent on the context in which the activity occurred. Children adjusted their strategic activity according to the context of participation.

Neuman and Roskos did note, though, that children's literacy actions and routines did not appear to change significantly or become more complex over the seven-month period of their study. They concluded that providing children with authentic literacy settings represents an important form of learning. Both formal school settings and active classroom contexts that provide real-world opportunities for engagement in literacy practices around self-initiated problem-solving situations appear to offer highly enriched learning opportunities for emergent literacy skills.

Spelling

The link between learning to read and learning to spell has been established; however, it was not certain that this strong positive relationship was because learning to read improves beginners' ability to spell, or that learning to spell improves word reading ability, or that each contributes to the development of the other. Ehri and Wilce (1987) conducted a study to determine whether reading instruction may be improved by spelling instruction. Participants were selected from kindergarten classes in two middle-class elementary schools. Several pretests were conducted to identify those who could name or give the sounds of at least nine of the ten target letters that were used in the training. None of the participants could spell more than two of the six nonsense words containing consonant clusters nor read the words taught in the word learning posttest. Scores were matched and twelve participants were assigned to either the experimental or control groups. The experimental group was taught to segment and spell words and nonwords. The control group practiced associating letters with isolated sounds that appeared in the words taught to the experimental group. Both groups were then given seven learning trials to read 12 meaningful words. It was hypothesized that if spelling facilitated word reading, the trained subjects would learn to read more words than the control subjects.

Results of this study indicated that training beginning readers to spell did improve word reading skill. Further examination of the subjects' strategies indicated that spelling training did not facilitate blending skill. Therefore, a sounding-out and blending strategy was not the primary way that most subjects read the words. Evidence suggested that a second strategy was used, that of phonetic cue reading. It appeared that the sound sequences produced by subjects jogged the subjects' memories for words having those sounds. The fact that the trained subjects attempted to sound out and blend some of the words suggests that they were looking not for visual cues but rather for phonetic cues as they were reading the words.

Meaningfulness of the words was another variable examined to determine its influence on learning. A significant correlation was found for control subjects but not for trained subjects. This indicated that the control subjects were influenced by both word meaningfulness and letter cues, whereas trained subjects' word learning was influenced only by letter use.

The experimental group outperformed the control subjects. Analyses of the errors of both groups indicated that the trained subjects were better at correctly identifying consonant clusters, whereas the control group correctly identified the initial consonant but omitted the second consonant. None of the control subjects spelled any of the consonant blends in final position correctly. This study provided experimental evidence that spelling instruction was found to improve children's ability to learn to read a set of similarly spelled words. The authors concluded that teaching children to spell CVC, CCVC, and CVCC nonsense words phonetically is very effective. They further concluded that mixing words that are learned

phonetically with words that must be learned by rote (high-frequency words) is not advisable. The words that are learned by rote tend to undermine children's making sense of the alphabetic system and obstruct their learning phonemic segmentation skills from spelling instruction. Learners then treat spelling as a rote process.

Richgels (1995) replicated Ehri and Wilce's study (1987) with the exception that no subject in this study (n=32) had received any formal spelling instruction. Participants in two schools from five kindergarten classes were tested and divided into two groups of 16 "good" inventive spellers and 16 "poor" inventive spellers. The purpose of this study was to determine if children who are "natural" spellers, that is good inventive spellers, can read phonetically simplified words without formal instruction. The results showed that the good inventive spellers demonstrated both phonemic awareness and spelling ability. The good inventive spellers learned to read new phonetically simplified words better than the poor inventive spellers did. The results from Richgels study supported the Ehri and Wilce (1987) conclusions that spelling ability fosters word reading, not through sounding out and blending, but accessing letter-sound associations stored in memory.

Treiman and Tincoff (1997) conducted four experiments with kindergarteners and first graders to examine how knowledge of letter names influences children's spellings of words. Beginning spellers do not access spellings of words from memory; rather, they construct spellings based on the sounds of words. Ideally, this should be done at a phonemic level in an alphabetic writing system; that is, children would analyze the spoken word as a sequence of phonemes and represent each phoneme with a letter. However, as in phonetic cue reading, children tend to symbolize more than one phoneme by a letter's name that "says" the phonemes, e.g., *r* for /ar/. Based on previous experiments, Treiman thought that the phonological properties of a letter's name affected children's tendency to use that name as a guide to spelling. When the phonemes in a letter's name are cohesive, as with the /a/ and /r/ of the word *car*, children will spell that sequence of phonemes as a unit, thus writing *cr* for *car*. However, if the phonemes are less cohesive, children are less likely to spell the phonemes as a unit. Children also treat syllables as a cohesive unit, e.g., treating the second /b/ and the final sound of *baby* as the name of the letter *b* and writing "bab." Their spellings indicate that they make an attempt to divide words into smaller units of sound and then to represent those sounds with letters. Children do not often succeed, though, in making a full phonemic analysis of a spoken word. When they encounter a group of phonemes that has a well-known orthographic representation, they tend to symbolize the group of phonemes with that letter.

This sequence of experiments confirmed that children do use their knowledge of letters' names when learning the sounds that the letters make. Kindergartners were better at spelling phonemes such as /b/, /k/, /t/ than at spelling phonemes such as /f/, /g/, /l/, /m/ or /s/. The easier phonemes occurred at the beginning of a CV letter name, while the harder phonemes are either not found in a letter name (/g/) or are at the end of a VC letter name (/f/, /l/, /n/).

Treiman and Tincoff thus concluded that letter name knowledge has both positive and negative effects on early spelling. It can help children to spell alphabetically by helping them learn the links between phonemes and letters and by setting up expectations about how words are spelled.However, knowledge of letter names sometimes leads children to deviate from the alphabetic principle by encouraging them to symbolize groups of phonemes with a single letter. They suggest that errors such as "bab" for *baby* and "cr" for *car* might happen less often if teachers placed more stress on the sounds of letters than on their names. From their experiments, they drew the conclusion that "the alphabetic principle is fragile for beginning spellers" (p. 447).

The present view of spelling as an integral aspect of reading and writing has reconceptualized spelling instruction from rote memorization to word study. Bear and Templeton (1998) elaborate:

> Word study instruction integrates spelling, phonics, and vocabulary instruction. In word study and spelling instruction, students examine shades of sound, structure, and meaning. In word study, we do not just teach words—we teach students processes and strategies for examining and thinking about the words they read and write. (p. 223)

This view of spelling is rooted in a developmental frame that consists of six stages of spelling knowledge. These stages recognize individual differences within their broad age ranges. The first four stages are particularly pertinent to early childhood teachers because the knowledge attained in these stages reflect children of different developmental levels in their classrooms. A brief description of the stages follows.

Prephonemic spelling. Children imitate writing styles in this preliterate stage. They scribble, produce strings of random letters, and/or use pictures and dots. Sounds and pronunciations of words are not connected to letters. Children in this stage have not developed the idea that print represents words and, therefore, tend to "reread" their writing differently each time. Reading is "logographic," i.e., they guess the word based on the visual features of that word (Moats, 1995, p. 35).

Semiphonemic. Children in this stage know the names of the letters and now realize that letters represent speech sounds. A few letters, usually consonants, are used to represent words and syllables. Invented spellings provide clear evidence that children are using the alphabetic principle. Early writings are brief and difficult to read because of the sounds that are not represented.

Letter Name Spelling. Children in this stage tend to represent each sound with a letter. This stage is aptly labeled, as children heavily rely on sound segmentation and articulatory-phonetic feedback in their spelling. Moats (1995) has referred to this stage as "spelling by mouth" rather than "spelling by sound" (p. 37). Children's use of letter names to spell sounds begins with consonants and then extends to vowels. Long vowels are represented with the letter whose name is the same as the vowel sound. Short vowel sounds are usually represented with the letter whose name is closest in terms of articulation, e.g., sit is often spelled s e t. Towards the end of this stage, children include more consonant blends and digraphs in their spelling and include previously omitted spellings of m and n before final consonants, e.g., "BOP (bump)" (Bear & Templeton, p. 227).

Within-Word Pattern Spelling. Children's spellings at this stage are not as phonetically accurate as spellings typical of the earlier phonetic stage. They no longer follow a "strict one letter/one sound expectation" (Bear & Templeton, pg. 227), experimenting with more complex letter patterns. They learn to spell most consonant blends and digraphs conventionally.

The last two stages of spelling include ages 8 and older; therefore, the Syllable Juncture and Derivational Constancy stages are not described here.

Although research strongly indicates that phonological awareness is related to early reading and spelling performance, in most of the studies that assessed spelling, each word was evaluated as either right or wrong. The developmental nature of spelling was missed because of such scoring procedures. A scoring system sensitive to the lower level responses of invented spellings of children prior to formal instruction in reading and writing was needed to examine spelling development. Tangel and Blachman (1992) developed such a scoring system and used it to examine the influence of phonemic awareness instruction on the quality of kindergarten children's invented spellings. Invented spellings of beginning readers offer a window into children's understandings of the sound system of their language prior to and during early reading instruction.

Participants of this study represented four demographically comparable low-income, inner-city schools. Treatment and control subjects came from different schools to guarantee that the control subjects had not been exposed to the treatment activities. The pretest variables consisted of age, sex, race, letter name knowledge, letter sounds, phoneme segmentation and two standardized tests (PPVT-2 and the Woodcock Word Identification). No significant differences were found between the treatment and control groups on the pretests.

The treatment group (n=77) participated in 11 weeks of phoneme awareness training. This treatment included a three-part lesson that involved (a) say-it-and-move-it phoneme segmentation activities, (b) segmentation-related activities, and (c) letter-name and letter-sound activities. This treatment included 41 prepared lessons that lasted for 15 to 20 minutes 4 times per week for 11 weeks. The lessons were conducted by the regular kindergarten teacher or a teaching assistant in the classroom. The control children (n=72) participated in a traditional kinder-

garten curriculum that included whole class instruction in letter names and letter sounds. In addition to the pretest measures noted above, the posttest also required that children read a list of phonetically regular words and nonwords and to spell words that were dictated on a developmental spelling test (DST). The scoring procedure constructed to rate the invented spelling of the dictated words consisted of a 7-point scale (0-6). This scale took into consideration the number of phonemes represented and the level of orthographic representation, i.e., the use of phonetically related or conventional letters. Therefore, a written response for a dictated word could receive a score that ranged from 0 for a random string or alphabet string of letters to 6 for the correct spelling. The DST required that children spell five words (lap, sick, elephant, pretty, train) that represented early developmental spelling patterns noted by Read in his seminal studies (1971, 1986). The scoring criteria developed for each word used information from Read's analyses, selected criteria from other scales and criteria Tangel and Blachman added to make the scale discriminate among lower level responses.

Extensive analyses indicate that the treatment group outperformed the control group on several measures: phoneme segmentation, letter name and letter-sound knowledge, and word recognition. Of particular interest in this study is the analyses of children's invented spellings. Tangel and Blachman established reliability of their 7-point scale for scoring the DST. The results show that treatment children were able to produce invented spellings that were rated developmentally superior to those of the control children. They were able to break words into their phonemic segments and then select the alphabetic symbol that corresponded to that segment of sound. The treatment children had significantly greater skill in dealing with this complex task than the control children. The main purpose for developing this scoring system was to expand the lower limits of previous scales, thus permitting the scoring of less sophisticated responses that would have been considered unscorable on earlier scales. Children in this study, therefore, were credited for representations of salient letters in a word, e.g., "t" in pretty or for giving a phonetically related letter for the initial letter of a word , e.g., "ch" for *train*. Also, extra letters, as in *siack* for *sick*, were reliably scored with this scale.

Both the treatment and control groups produced invented spellings. The invented spellings of the treatment children, however, were significantly more sophisticated as indicated by their spelling of individual words and their scores on the DST as a whole. The high level of sophistication of the invented spellings of the treatment children was determined by the number of phonemes represented, the sequencing of phonemes, and the orthographic features. The phonemic awareness instructional activities required active exploration and participation, which offered the children many opportunities to construct meaning about the internal structure of words. The high level of sophistication of the treatment group's invented spellings were considered the result of the active nature of the tasks. It is important to note that the children in this sample were from low-income, inner-city schools. These children knew, on the average, two letter sounds prior to the intervention. The research tells us that children who deduce the alphabetic principle on their own, and who create invented spellings prior to formal reading instruction, appear to be more prepared for the reading task and are more likely to succeed in their efforts to learn to read. However, for children who are not in this category, this study is one of several which demonstrates the efficacy of direct instruction in phonemic awareness and letter-sound segments.

The research reviewed in this chapter focused on three aspects of emergent writing: the mastery of form, awareness of function, and cognitive strategies evidenced during writing behaviors. Mastery of writing forms does not occur in a linear fashion; instead, the research suggests that immature forms of writing reappear continually until approximately age six. The research additionally pointed to a misanalyses of children's writing that had previously been considered conventional or inventive spelling but now was recognized as copying, which is a recognized form of exploration of letters and letter names. These findings were revealed through one-to-one interviews instead of group classroom tasks. This methodology also revealed that the writing

products qualitatively differed when produced under these two conditions. Oftentimes, a less mature form of writing occurred in response to a more mature compositional task; however, the child's rereading of the task frequently reflected a high level.

Invented spelling appears much later in most children than expected and is more complex than expected. Two subcategories of invented spelling are syllabic (when there is the use of one letter per syllable) and full invented spelling (when there is one letter used per phoneme). Studies revealed a previously unrecognized developmental step before full invented spelling is achieved. That step occurs when children shift their attention from what writing looks like to how writing is related to the sounds of speech.

A comparison of English-speaking children's writings with Spanish-speaking children's writings indicated that the way children construct their knowledge about writing is more influenced by their construction of a syllabic hypothesis. It was concluded that until this construction, children may be unable to use their information about the alphabet.

Many of the letters produced by children in their earliest writings represent letters from their own names. Children's knowledge of their names significantly influences their early writing productions. For example, those children who identified letters of their names or the names of family members/classmates also distinguished between writing and drawing at three years of age. It was concluded that name production ability and alphabet knowledge develop concurrently for most children, regardless of age.

Research suggests that kindergarteners understand about a variety of functions of writing, even though they do not necessarily engage in those functions. The most commonly identified function of writing was communicating with others. Memory was also noted as a writing function. Most children appear to understand that writing involves an audience.

Although research shows that play settings offer children multiple opportunities to construct functional understandings about writing, data show that many classrooms do not provide such writing experiences. Many classrooms lack writing centers or have poorly equipped writing centers. Labels and posters were displayed but ignored by teachers and children. Dramatic play areas were mainly housekeeping units and few of those offered environmental print items.

An extensive analyses of children's compositions in three genres indicated that kindergarten, first and second grade children have a working knowledge of the narrative genre and much less developed understanding of informational and poetic genres. There were few significant grade level differences between the kindergartners' reports and poems and the first and second graders. Children's experience with genres outside of the narrative was very limited.

Research confirmed that 4- and 5-year-old children are using metacognitive strategies. Data analyses showed a positive correlation between self-management and the quality of children's dictated texts. Metacognitive strategy use by young children may be related to the provision of settings with authentic objects and accessible representations and materials often missing from traditional classroom settings. Children adjusted their strategic activity according to the context of participation.

Spelling training in kindergarten did improve reading performance. This improvement appeared to be a result of phonetic cue reading rather than a sounding-out and blending strategy. Meaningfulness of the words was not a factor with the trained subjects' word learning, and, thus, it was concluded that letter use was the primary variable.

Other studies showed that beginning spellers construct spellings based on the sounds of words. Those early constructions are based on groups of phonemes that have the sound of a single letter, for example, /r/ for /ar/ as in car. Children's spellings indicate that they make an attempt to divide words into smaller units of sound and then to represent those sounds with letters. However, when they confront a group of phonemes that has a well known orthographic representation, they tend to symbolize the group of phonemes with that letter. Letter name knowledge both helps children to spell alphabetically and sometimes leads children from the alpha-

betic principle by encouraging them to symbolize groups of phonemes with a single letter. It was recommended that teachers place more emphasis on the sounds of letters than on their names.

Four developmental stages of spelling were identified and described. They are prephonemic, semiphonemic, letter-name and within-word pattern spelling. These developmental stages were described as nonlinear rather than linear.

Kindergarten children who were trained in phoneme awareness (the treatment group) differed in their invented spellings from children who were not trained (the control group). The treatment children significantly outperformed the control children in their productions of invented spellings which were rated developmentally superior by a 7-point scale created for evaluation of these data. This study confirmed the instructional practice of direct instruction in phonemic awareness and letter sound segments for children who have not deduced the alphabetic principle on their own nor have they engaged in invented spellings prior to formal reading instruction. The active nature of the tasks was attributed to the high level of sophistication of the treatment group's invented spellings.

Books, dramatic play, explicit instruction of phonological processing, along with writing and inventive spelling, do, indeed, make a difference.

Chapter 6

Activities and Learning Strategies

The reviews of research in the previous chapters included discussion of the experimental treatments regarding literacy learning of children. In this chapter we present related recommended activities and learning strategies for promoting emergent literacy in children four to six years of age who are in kindergarten and late preschool. These activities and strategies focus on the classroom rather than schoolwide endeavors. The presentation follows the order of the chapters but later also includes broader, general literacy activities such as those involved in subject matter projects.

The research on registers in Chapter 2 established the importance of parents and teachers reading aloud to children. The next section presents some activities and strategies about reading to children and initiating family literacy programs. Since this section includes procedures for establishing classroom areas and programs, more explanation is required than for activities and learning strategies for other topics. Activities and learning strategies for developing comprehension, phonological processing, and writing will be more briefly described as bulleted items listed under the respective topic.

READING ALOUD TO CHILDREN

The book *First Class*, which was published by the California Department of Education (CDE, 1999), concerns the "development-based" (p. 1) education of children four through six years of age. The following statement from this publication emphasizes the importance of reading aloud to children:

> Enjoying books and telling stories are more than simply saying the words—the adult and child thrill together over the plot or characters; they share similarities between the story and the child's life; their curiosity is stimulated and vocabulary is developed; they improve their understanding of concepts about print and other reading skills; and they savor a love of reading. Adults should read to children from a wide variety of print sources several times each day. This is especially necessary for children with few experiences with print. Read-alouds show children the purposes of reading and writing. (p. 52)

This publication advises preschool and kindergarten teachers to include shared reading activities in their daily reading to children as soon as their students know some concepts of print and a few sound-symbol correspondences. In shared reading, which can be done with the whole class or with small groups of children, the teacher reads from a big book, sweeping the hand under the left to right progression of the text, and periodically asks children to predict what will happen next in the story. With rereadings, children can readily predict, often using words from the story, and can supply other words, especially rhyming words. Shared reading, as the CDE publication states, "is especially valuable for children who speak English as a second language" (p. 54).

In addition to reading stories to children, Morrow, Strickland, and Woo (1998) recommend that teachers also tell stories to children. As teachers engage in storytelling with the use of props, they are modeling for the children techniques of storytelling. Children then can engage in storytelling using the language and sequence of stories.

Neuman, Copple, and Bredekamp (1999) advise preschool and kindergarten teachers not only to read to children daily but also to read to them from a wide variety of sources, including a print-rich classroom environment. For a classroom to be print-rich does not mean to have print everywhere; instead the print must serve a purpose. The following print items were suggested: labels that distinguish items, such as labels for "long and short ropes" (p. 38); a message

board where the teachers and children can leave messages; mailboxes for children, where the teacher or children can leave messages; charts related to classroom activities and procedures; and displays related to classroom projects that include children's dictated or written responses to project questions. Dramatic play areas can be enhanced with the addition of related literacy materials.

The library area needs to be specially located with comfortable places for children to sit, with "open-face bookracks so that children can see the covers of the books" (p. 48), and with a variety of books related to classroom content and children's interests, including any books produced by the children. Posters can add to the literacy ambiance, and the authors advise that posters are available without charge from the American Library Association. (See Appendix A for the address.) Cassette tapes and listening devices in the library area enable children to listen to stories and informational books and follow along with the book.

In such print-rich classrooms, children encounter literacy in meaningful ways; in effect, they encounter literacy in action. Parents coming into these rooms enter a literacy environment. They, too, can encounter literacy in action as teachers work with them on home literacy programs. (Activities listed later under comprehension, phonological processing, and writing also include reading aloud to children.)

Family Literacy Programs

One way several teachers got started in a family literacy program was by having a book bag program in which children brought home books. Barbour (1998/99) describes this home literacy bag program designed in an early childhood education center by a preschool teacher of 4-year-olds from low SES families, a kindergarten teacher of middle class children, and a Title 1 teacher who worked with kindergarten children, half of whom were from low SES families and the other half considered to be at risk in other dimensions. The 109 bags, called "B.E.A.R. (Be Excited About Reading) Bags" (p. 72), were paid for with Title I funds and money donated by the PTA, at a cost of $30 a bag on average, which included the price of the nylon bag, four books, and two related activity materials such as toys and games. The contents of each bag were related around a theme, and the books included "fiction, nonfiction, poetry, and beginning readers" (p. 73). The preschool teacher included an audio tape of one or two of the book readings and a tape recorder if needed by the family. The Title I teacher included a response journal for the parents and one for the children.

The bags rotated among the 97 children involved in the project and were checked in and out by the teachers, two of whom used a pocket chart arrangement to keep track of the bags. After the parents received a letter explaining the program, the parents, children, and teacher signed a form promising to fulfill the expectations of the program. The parents were to read to the children on a regular basis; the children promised to select and care for the bags and to "spend time with the books" (p. 73); and the teacher promised, in addition to managing the program, to "instill a love of reading" (p. 73). According to the evaluations by parents and teachers, the program was very successful. "Tips from [the] Teachers" follow:

- Take a lot of time to prepare and organize.
- Make sure the items in the bags are replaceable.
- Enlist parents' help in making activities and response journals.
- Arrange for reliable parents to handle check-in/check-out procedures.
- Include ideas for extension activities (conversation starters, places to visit, words to fingerplays and songs, recipes).
- Use several means to keep track of the bags' contents.
- Allow children to check out a new bag only after all items in a previous bag are returned.
- Be flexible in the length of loan time, depending on children's interest.
- Minimize use of consumables, to keep costs and replenishment time low.
- Keep costs low—each bag can be made for as little as $15 if used books or book club selections and bonus points are used. (p. 72)

Another way to institute a family literacy program is through a family lending library in a classroom or school. To do so, Brock and Dodd (1994) recommend that three guidelines be followed. The

first guideline is to "focus on families" (p. 17) by obtaining information about the families: the extent to which parents read at home, the extent to which parents read to their children, the types of interaction between child and parent during book reading, the parents' and children's reading interests, the source of books parents read to children, and other information related to literacy and the classroom. This information may be gained from conversations and interviews with parents and children and from surveys or questionnaires sent to parents.

The second guideline is "to collect books and materials" (p. 17). In addition to collecting children's books related to children's interests and classroom themes and projects, also include books, pamphlets, and articles about topics related to children in which parents have expressed interest. It is also important to include books and other materials that help parents in the literacy development of their children. Such materials have been published by professional organizations, and Brock and Dodd suggest contacting the following organizations for information regarding their publications: American Library Association, International Reading Association, National Association of Young Children, and Reading Is Fundamental. (See Appendix A for addresses.) Audio cassettes and video tapes, published or teacher-made, related to literacy can function as models for parents, i. e., models of reading aloud to children. In addition to children's books, Brock and Dodd recommend including toys, games, and other materials related to classroom projects; they cite, for example, a classroom transportation unit with related toy ships and airplanes in the lending library. Parents then can check out a children's book about the unit and a related toy for the child to use at home in relation to the content of the book.

The third guideline is to "plan operational procedures" (p. 19), such as parents checking out materials. The books and other material in the lending library will need to have affixed a book pocket with a signature card. If the lending library is in the classroom, the books and materials can be housed in a revolving circular bookcase placed in a convenient place for parents, and check-out times will need to be established. Another operational procedure is to seek funding for the library through various funding agencies, including the PTA at the school, district, and state levels, along with local businesses and organizations.

Parents can help in both the planning and periodic evaluations of the lending library. In procedural matters, suggestions by parents may not only solve the particular matter but also facilitate their use of the library. Additionally, parents may be helpful in relation to finding funding for the library. Evaluation of the library also needs to include parents. The evaluation questions recommended by Brock and Dodd include how often parents have used the library, how they have used the materials at home, what they have learned about their child as a result of using the materials at home, and what new information they have learned from the adult books they have taken out from the library. Children can also be part of the evaluation by asking them to tell about their use of the library, including their favorite books and how the books and materials were used at home. Brock and Dodd conclude that having a family lending library is a means of teachers collaborating with parents for the literacy benefit of children.

Enz and Searfoss (1996) also suggest that teachers establish classroom lending libraries. Additionally, they urge teachers to expand parents' views of literacy by helping them recognize and take advantage of every opportunity to read with their children. Together parents and children can read environmental signs as they walk or travel by car; they can prepare shopping lists and read signs and names of products as they shop for groceries, and they can read recipes as they prepare a meal. Enz and Searfoss suggest that the teacher have a coupon box where children can bring coupons that their parents cannot use and possibly exchange them for those they can use. The parents and the teacher can read the coupons with the children. Other ways parents can read with their children can be suggested by the teacher in periodic notices such as a "Home Literacy Ideas" (p. 576) bulletin..

Some help for teachers in working with parents about literacy can be gained from two books published by the International Reading Association in 1999, *Families at School: A Guide for Educators* (1999) and *Families at School: A Handbook for Parents*, by Thomas, Fazio, and Stiefelmeyer.

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Although the books are about a school district project that included literacy instruction for the parents, some activities of the program could be utilized by a classroom teacher in working with parents. For example, the first book contains sample lessons designed to enable parents to distinguish and understand the value of the different genres of children's books. Following are the lesson plan steps for introducing parents to the genre of predictable books: (1) after presenting the book, the teacher leads the parents in a discussion of what makes a book predictable; (2) after the teacher reads the story, modeling how to do so, she or he leads the parents in a discussion of why the story just read is considered a predictable book, with teacher and parents referring to what was said earlier, followed by discussion of why children like this kind of book; (3) the teacher leads the parents in discussion of the reading techniques and the "reading strategy" involved in the genre, in this case "making predictions" (p. 69). Items in the second book (*Families at School: A Handbook for Parents*) include book-related activities parents and children can do at home. The activities include making word games such as matching words, making posters, making books about the alphabet, colors, numbers, and other topics. When reading with their child, parents also are advised to interact with the child about the content, asking questions, discussing the pictures, having the child make predictions, etc. Teachers need to model this parental interactive reading for the parents. In the described program, the parent training prepares the parents to use the handbook. Both books contain lists of recommended children's books in the narrative, expository, and poetry genres for parents to read with children.

COMPREHENSION

The following comprehension activities are suggested in the CDE (1999) publication.

- In discussing stories with children to develop comprehension, lead children to predict and compare characters' behavior, recall related events, and summarize the story.
- After discussing stories, students can write sentences about characters in stories they have heard or worked with in their guided reading practice, and pictures that have been painted or cut out can be added to illustrate sentences.
- After discussing environmental print, create an "I Can Read" bulletin board by having the children "bring in environmental print (cereal boxes, advertisements, or examples from their neighborhood) that they can read. The material is discussed and posted with the children's name." (p. 56)

The California Kindergarten Association (CKA, 1995) wrote a position paper on language arts and reading in response to the California Department of Education Reading Task Force Report. The CKA paper included learning activities related to the skills specified by the Task Force for kindergarten children. Although written for California classrooms, the activities are useful with all emergent readers.

- Facilitate activities that promote children's word meaning development from oral discussion and explanation. Discuss alternative words for a passage. Listen to children's retelling of event or story to assess word meaning gains.
- Help children build simple words with magnetic letters and other manipulatives by having them start with their own names. Then have them use manipulative letters to create new words. Change beginning or other letters to create new words.

CKA (1995) offers these additional comprehension strategy suggestions.

- Children's fluency will best be developed through the reading of familiar materials. Books written by the students and books that have been read multiple times are good sources for familiar materials.
- Children's skill in oral reading can develop as they engage in choral reading of cooperative stories, poems and songs. Provide opportunities for children to read with cross-age buddies, fellow classmates, a variety of adults and even to a stuffed pet in the classroom library.
- Recreational reading should include fiction such as fairy tales, other stories, and poetry. The use of several stories by the same author or a similar story by a variety of authors provides further interest for the children.
- Nonfiction material, including real stories and nature books, should be compared to the children's

experiences. Help children summarize what they have learned from these books. Encourage them to dictate or write sentences to put with their art work related to these books.

- Books that tell about various cultures, particularly those that are represented by the children in the classroom and local area, will broaden students' multicultural understanding.
- Books about counting and other mathematical topics will encourage children's interest in this subject.

Scott and Pinkney (1999) offer the following activities for initial and beginning reading.

Initial Book Activities

- Use the story's illustrations to note significant details about the characters, plot and location.
- Repeat with the children, as the story is read, colorful sounds, recurrent patterns in the words and distinctive word characteristics.
- Encourage children to use the pictures to tell the story. Predict outcomes, discuss characters' feelings and compare events to children's experiences.
- Retell the story with the children and discuss the characters, setting, and story line.
- Encourage children's use of art projects in response to the story.

Beginning Reading Level Activities

- Give children opportunities to have free time looking at books and pretending to read.
- Point to the pictures as children pretend read the story. As the teacher reads the story, children point to the pictures.
- Share turns with children as they read every other page, and ask each other questions while discussing the story.
- Have children look at a video of a book and compare and contrast the video with the book.

Morrow, Strickland, and Woo (1998) recommend these activities to help develop children's proficiency with independent comprehension.

- Have books relating to the current classroom theme for students to read and discuss with their buddies.
- Have students write or draw a new ending to a theme-related story that previously had been read to them. Have students discuss what they will write with a buddy, then write, and later share their written work when done.
- Have puppets and felt characters in the Literacy Center from theme-related stories.

Morrow, Strickland, and Woo also suggest these general comprehension activities.

- Tell and read a variety of stories to children. Model storytelling using a variety of props. Read poetry to the class. Take the children to visit the public library. Encourage children to independently read magazines and books.
- Include prestory and poststory discussion concerning story structure and sequence. Encourage children to retell stories.
- Include vocabulary development, show and tell, discussions about classroom themes and stories.

Vocabulary

Gallagher (1997) develops the relationship between themes and comprehension. Themes are seen as a means of developing concepts and related vocabulary.

- Children take a nature walk (for instance signs of spring). When they return they sit as a group to share their observations from the walk and decide which of the shared observations they want written on a wall chart. Then the teacher might ask them to look for familiar words on the chart. Next the children can listen for beginning and ending sounds, along with any words that might rhyme.
- Using water as a theme, one topic that could be developed is bridges. Get help from parents who are involved with bridges—commuting over a bridge, building or repairing bridges, working in the toll booth, etc. Gallagher suggests "a key aim of this approach is enriching the assimilative base through the use of many aspects of the symbol system of language: oral, written, print, and pictorial" (p. 11). Discover what the children know about bridges and put this information on a chart. Ask them to look for bridges or find pictures of bridges that do not go over water. Use a bulletin board to develop the theme pictorially including uncommon bridges such as covered bridges. As the study of bridges continues,

develop vocabulary words such as "wood, steel, concrete, brick, stone" (p. 11).

- Include parents in the thematic studies. Write letters encouraging them to locate pictures, take short family field trips, share memories with children, help children draw pictures relating to themes, go to the library to find books relating to the themes, and read those books to the children.

Dramatic-Symbolic Play

Gallagher (1998) advises that as children begin to learn to read, they must "substitute letters for sounds and sounds for letters, words for meanings and meanings for words, language for images and images for language, and images for drawings and drawings for images. When children participate in symbolic play, they make substitutions to represent the world (p. 74). For example, when a child uses a rock to be an animal and makes the related sound, the child knows the rock is not the animal. The child has substituted the rock for the animal during symbolic play. "It is this practice of substituting that will be a key in the children's learning to read" (p. 74).

- Implement themes such as the "post office, grocery store or block-building area. When children eat their pretend dinner or buy their pretend groceries, they construct the 'plot' through verbal exchanges" (p. 77).
- Encourage children to act out stories and to extend the plot.
- Work with children as they build the language sequence, proceeding sequentially from the beginning through several more story parts until they reach the end of their creation.
- Plan opportunity for improvisational (needing no rehearsal) symbolic play. This occurs when children play that they are giants or leaping frogs. They will constantly conceive an arrangement of concepts and association actions that make up a story (their own version of the story) when they have opportunities for spontaneous symbolic play.
- Provide children with ample opportunities for block play. During these activities the dialogue that accompanies this project has a direct connection to reading. As they participate in symbolic play dialogue, they are participating in the story telling process and building their vocabularies. It is important for teachers to encourage the reluctant child who will begin to grow through these activities.

Gallagher concludes by reminding teachers that many areas in kindergarten classrooms offer opportunities for symbolic play, and children need ample opportunity and time for this form of play.

Another type of enactment closely tied to book-related dramatic play is Jordan and Herrell's (2000) adaptation of Readers Theatre for emergent readers. The authors note that Readers Theatre scripts can be presented through "oral readings, puppet presentations, or choral reading. Involving students with enjoyable and exciting active reading procedures provides the key to fluency and higher levels of comprehension gain, through a natural process of repeated readings and interactive transactions with language" (pp. 73-74). The teacher guides the children to develop scripts that encourage the participation of as many of the students as possible. The rest of the students are the audience where they have an opportunity to develop their listening ability.

Following are the special adaptations of Readers Theatre that are necessary in order to ensure its success with emergent readers. Reread small parts (one or two pages) of the text. Ask questions to help children tell what is happening. Record responses on a chart and read the chart with the children. Label children's parts, including narrator. Explain what is a narrator's role. Explain that such titles are not read aloud because they tell who is speaking. Continue to reread the story and ask questions as the script is developed on the chart. When the Readers Theatre script is presented, use a few props or puppets. Give the children who will be the readers two copies of the completed scripts with their parts highlighted. One copy will go home for practice. At the time the script is presented the readers may either sit or stand. The narrator is placed at the edge of the group. Review listening expectations for the audience.

After the presentation, have the students discuss the enactment, focusing on the following:

- the meaning of the text in relation to the role of the characters.
- new vocabulary.
- scripts, props, and costumes, which are gathered

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together and placed in a literacy center. Here, students can continue repeated readings and reenactments, exchanging roles and obtaining new understandings and insights while increasing fluency and comprehension. (p. 78)

Story Structure

Morrow, Strickland, and Woo (1998) advise us that children will understand story structure as they learn to recognize the components of stories. These include where the story takes place, the theme, what the story is about, and how the story is resolved. They continue with the following four activities.

- After reading a theme-related book to the children, prepare to read it again by asking them to think about when and where the story happened, and to remember the characters. After rereading the story to the children, see if they can think of more settings that were in the story and additional characters and other story elements. Teachers should reread the story another day and focus on "other story elements such as the theme, plot episodes, and resolution" (p. 142).
- By answering literal questions, children's skill in distinguishing story details is enhanced by answering literal questions. Through acting out stories and using puppets, children will have an opportunity to further show their recognition of story details.
- Before reading a story where there are sequenced details that the children will be able to recognize, remind them to listen for and to remember them. Follow the reading of the story with opportunities for dramatization and puppet presentations. "Children will express feelings, predict, generalize, and problem solve" (p. 143) using this activity.
- After rereading a familiar story that has several characters such as *The Three Pigs* or *The Three Bears*, use the format of a talk show, and select one child to be the host and others to portray the main characters. Have the host ask why they did what they did in the story.

Morrow (1989) suggests these activities to develop children's story comprehension.

- Share a story orally without use of the book.
- Include story structure principles as they retell the story.
- Have children respond to story readings with literal questions and comments, and with interpretive and critical questions and comments.
- Have children participate in story reading by saying words and narrating stories as the teacher is reading to them.

CKA (1995) points out factors that strengthen oral language and literacy comprehension.

- Storytelling activities enhance listening skills, story structure, and verbal response. Props such as puppets and pertinent objects help to focus children's attention.
- Stories, films, story boards, listening post activities, and computer software can, depending upon the context, develop awareness of sequencing, attention to detail and memory abilities.
- Choral reading opportunities using big books, pocket charts, individual books and child-initiated books develop students' comprehension of stories and their level of participation.

Concepts About Books

CKA (1995) suggests some activities for developing concepts about books.

- To promote children's understanding of how words, phrases, and sentences function, using cooperative writing such as stories, newspapers, journals, labeling of pictures, rhyming and language games.
- To help children begin to use book language, use words such as illustrator, author, beginning, middle, ending, setting, characters, plot. Extend stories with activities that encourage children to think about what will occur next. Use charts that define what the children know, what they would like to know, and what they have learned.

Morrow (1989) notes that adults need to help children gain concepts of books. Children who have a good concept of books

- realize that books are to be read.
- distinguish the front from the back and top from the bottom of a book.
- turn the book pages appropriately.
- distinguish between print and pictures.
- know that print and pictures on a page are related.
- realize where to begin reading on a page.

- understand what a title is.
- recognize the role of the author and the illustrator.

Concepts About Print

The CDE publication (1999) notes that "During reading or writing, teachers draw children's attention to special reading terms, such as *word, letter, sentence, and sound*, and to other concepts about print" (p. 48). The book suggests the following for enhancing children's awareness of print.

- Label classroom objects using children's own words.
- Use charts for directions, activities, and lists
- Encourage children to write. "Children also learn to understand print by writing. Children's writing skills are not ruined if children are *allowed* to write before they *can* write" (p.49).

The CDE publication suggests that letter recognition is encouraged by using the following activities:

- Singing the Alphabet song
- Reading a variety of alphabet books
- Providing children with alphabet magnets and puzzles
- Making alphabet letters with play dough
- Using children's name cards when lining up
- Having all children make individual alphabet books (pp. 49-50)

Activities concerned with print awareness continue from the CKA (1995) publication.

- Assist children to learn to recognize their own names by providing many opportunities for them to see their names in print during daily attendance, when labeling classroom areas, and as name tags identifying children's work
- Teach children how to handle books by providing opportunities for using books in the library corner, at the listening center, in small group situations and independently.
- Have children make letters with clay, playdough, cookie dough, yarn and use plastic, magnetic or wooden letters to develop the concept of letter-word directionality.
- Give children opportunities for developing left to right directionality by modeling this for them while reading charts and big books.
- Create a print-rich environment that includes a classroom newspaper, labels, and name tags.
- Help children understand that print has meaning by recording their words and helping them to read back what has been written.

Print awareness activities from Morrow, Strickland, and Woo (1998) include these suggestions.

- Write children's favorite words from the current theme on 3×5 cards that they store in individual Very Own Words containers.
- Make a class alphabet book using words from the current theme. Have different children illustrate each page and dictate an accompanying sentence for each letter. Have the students read the letters, words, and sentences. Books can be photocopied so each child has a copy.

Morrow, Strickland and Woo also advise that children need planned activities to help them distinguish between print and illustrations.

- Make a class Big Book that has pictures children have drawn about the current theme and sentences they have dictated. Reading from big books helps children to realize the left to right direction of print.
- Display and read to the children a poem chart that focuses on the current theme. While reading to children, indicate that the reading of print moves from left to right. Follow this by having the group write a poem on a chart that will be read with them. Emphasize the left to right movement.

PHONOLOGICAL PROCESSING

The CDE (1999) document presents various activities to develop phonological processing. The book states that "The heart of a balanced, comprehensive reading program is the relationship between explicit and systematic skills instruction and literature, language, and comprehension" (p. 44). Following are some activities recommended in *First Class* (CDE, 1999) to develop skills in phonological processing.

- Read stories with rhymes and have the children decide whether or not two words rhyme (aural skill).
- Include alliterative language play in which the children "listen for or generate words that begin with

a specific initial phoneme" (p. 47).

- Use line-up time for phonemic awareness by asking children to line up if their name begins with the selected sound.
- Count the phonemes in a word such as /s/ /i/ /t/. (3 phonemes).
- Clap syllables in words.
- "Use phoneme blending (e.g., when orally given the sounds */a/*, */t/*, children can blend them to make the word *at*)" (p. 47).
- Have students change words such as *Tommy* to *mommy*, thereby using phoneme substitution.
- "Use phoneme segmentation (e.g., isolate the sounds they hear in cat as */c/*, */a/*, */t/*)" (p. 48).
- Use laminated games created from old workbooks to have children practice phonics skills.
- Begin to teach word families after the children know the sounds of several letters.

Activities that encourage development of letter recognition are suggested by CKA (1995).

- Help children know most letter names and shapes by starting with their own names. Let children make letters from clay. In addition use a variety of letters including magnetic, felt and plastic. Let children use salt and sand to trace letters. Expose children to both lower and upper case letters. Daily use of charts, calendars and classroom newsletters will encourage children to learn more letter names.
- Assist children in learning to recognize their own names by providing numerous experiences for them to see their names in print. Furnish name tags to be used on children's work and projects. Have the children make name plaques for use at home.
- Foster the development of children's familiarity with word families and word patterns by calling their attention to word beginnings and endings, such as *c* and *-at*, *m* and *-at*.
- Have collections of objects and pictures that emphasize beginning and rhyming sounds.
- Nurture oral use of syllabication with body responses, including clapping and tapping.

Phonemic Awareness

The CKA (1995) position paper contributes several phonemic awareness activities.

- Provide oral language listening and response activities to help children hear separate sounds.
- Provide opportunities for the children to listen and chant nursery rhymes and other poetry to help them acquire rhyming skill. Poetry, rhyming games, and songs increase an awareness of sounds and retention of information.
- Use charts, chalkboard analysis, and books using rhyming themes to develop an awareness of changes in patterns of words, such as *fat* to *cat*.
- Clap hands, stamp feet and use body movements to help children hear syllables.
- Use charts, chalkboard, songs and flip books to develop an awareness of word families.
- Help children match sounds and words, using their names and a collection of objects to talk about how words can begin or end with the same sound, rhyme or sound alike.
- Listen to children as they respond to determine if blending of phonemes is heard and understood. For example, if children say "I pay" for "I play," they either have not heard correctly or may have speech problems.

Morrow, Strickland, and Woo (1998) provide an activity that teaches children to sort by sound.

- Create a chart with three columns. At the top of a chart, paste or draw a picture in each section of an item relating to the current theme beginning with three different sounds the children are learning. Have the children then classify by sound cut-out pictures to paste on chart. Follow with additional boxes of theme-related pictures labeled with the sounds for children to use.

Jerger (1996) suggests several phonemic awareness activities.

- Stop to let children fill in rhyming words when reciting nursery rhymes.
- Have children make up rhymes with their names using real and nonsense words.
- Invite children to form phrases using alliteration ("The baby buggy carried bubbles for the baby's bubble bath" (p. 11).
- Give children two sounds and have them put them together to make a word such as *s* + *it*. Later give them three sounds such as *s* + *i* + *t*.
- Prepare children for clapping syllables (and later

sounds) by having them clap each word in a familiar nursery rhyme.

- Have children tap every time they hear a designated word or sound as a story is read to them. Emphasize the word or sound in the beginning. Sounds that can be prolonged are easiest to detect, such as /m/, /s/, *sh*, and *th*.
- Have the children find the beginning sound that does not belong in a string of words such as *cat, cat, come, dog*. Later progress to ending sounds. The middle sound is much harder for children to distinguish.
- Play a game using sound deletion. "Say cat without the [t]" (p. 11). It is helpful for children if they start with compound words. "Say *cowboy* without the *cow*" (p. 11).

Johnston (1999) writes about word families as helpful tools in assisting children acquire phonemic awareness, for research shows that children easily separate words by onset and rime (t-op or st-op). Johnston points out that 500 primary-grade words can be derived from the following set of only 37 rimes (p. 67).

-ack	-all	-ain	-ake	-ale	-ame	-an	-ank
-ap	-ash	-at	-ate	-aw	-ay	-eat	-ell
-est	-ice	-ick	-ide	-ight	-ill	-in	-ine
-ing	-ink	-ip	-it	-ock	-oke	-op	-ore
-ot	-uck	-ug	-ump	-unk			

Research indicates that short vowel families, for instance the "at" family, are less likely to cause confusion for young children and also that beginning readers do not realize the accompanying silent letters most long vowels require. When beginning the work with a word family, tell the children that "We say that these words belong to the same family because they all end in the same two letters, A-T" (p. 69).

- Begin the study of word families using a short vowel family that has appeared in books the children have been reading. Expand their familiarity with the word family by reading several books that contain many rhymes using the selected family. Make a list of words in the family as the children discover them. Have the children substitute various beginning onsets for the rime. Underline the rime.
- Continue this activity on another day by placing all the word family words on the list on index cards which then are put in a pocket chart. Have the children read the words. Then cut off the "at" leaving the single consonants. Put the "at" cards in a column and mix up the consonant cards and place at the bottom of the pocket chart. Ask the children, "What letter would you need to add to -at to make cat" (p. 69)? After having different children find the needed letter, ask for another word in the same family that has not been written on the list. After the children respond with the correct consonant, add these words to the list.
- Prepare a lesson with pictures and words on a sheet of paper, for example the words *hat, sat, mat*, etc. with pictures of the same words, for children's independent work with word families. Have the children match the words and pictures. Use many different activities to study one word family for several days because this will "stabilize children's sense of rhyme and give them added visual support as they see that rhyming words not only sound alike but can also look alike" (p. 73).

Yopp (1992) states that "It is the breaking down and manipulation of *spoken* language that is of interest. Hence, the focus of activities should be on sounds in the speech stream...The more playful, game-like, and amusing the activity, the better (p. 699). The use of riddles and guessing games will help focus students' awareness of some of the unique aspects of our oral language.

The following activities use familiar songs as "a useful vehicle for phonemic awareness activities, the familiar melody providing a comfortable context for children to sing new lyrics that explore sounds" (p. 699).

***Sound Matching* (*Yopp, 1992*)**

- Sing to the tune of *Jimmy Cracked Corn and I Don't Care*. Use the phoneme sound not the name of the letter.

> Who has a /d/ word to share with us?
> Who has a /d/ word to share with us?
> Who has a /d/ word to share with us?
> It must start with the /d/ sound (p. 699).
>
> After a selected child says word, such as dog, then sing:
>
> Dog is a word that starts with /d/.

Dog is a word that starts with /d/.
Dog is a word that starts with /d/.
Dog starts with the /d/ sound (p. 700).

Sound Isolation (Yopp, 1992)

- Sing to the tune of *Old Mac Donald Had a Farm* for beginning and ending sounds. Children are asked to tell what sounds they hear at the beginning or end of words.

What is the sound that starts these words:
Turtle, time and teeth?
(wait for a response from the children.)
/t/ is the sound that starts these words:
Turtle, time and teeth.
With /t/ /t/, here and a /t/ /t/, there,
Here a /t/, there a /t/ everywhere a /t/, /t/ /t/
/t/ is the sound that starts these words:
Turtle, time, and teeth! (p. 700)

Use also with ending sounds such as *mat, fat, sat.*

Blending (Yopp, 1992)

- Sing to the tune of *If You're Happy and You Know It.*

If you think you know this word,
shout it out!
If you think you know this word,
shout it out!
If you think you know this word,
Then tell me what you've heard.
If you think you know this word,
shout it out!
(Teacher says a segmented word such as /k/-/a/-/t/, and the children respond by saying the blended word.) (p. 701)

Cunningham and Cunningham (1992) describe a phonemic awareness activity in which the children are engaged in making words. During this 15 minute interactive activity, children use individual letters to spell initially one or two words and eventually up to 12-15 words. In the beginning have them make two letter words and add letters until they are working with five and six letter words. "*Making Words* is an active, hands-on manipulative activity in which children discover sound-letter relationships and learn how to look for patterns in words. They also learn that changing just one letter or even the sequence of the letters changes the whole word" (p. 108).

- Begin by writing the word the children are to create at the end of the lesson. Then figure the 2, 3, 4, and 5 or 6 letter words they can create from that word. Remember this is a 15 minute lesson, so limit words to those that can be done in that time frame. Give the children individual sets of letter cards to make the selected word. Place large cards of the same letters in a pocket chart. The children are asked to make a certain two-letter word that the teacher has pre-selected with their letter cards. When most of the children have done that, create the word on the large pocket chart, then ask them to add one letter to make another word. If the first word was Ed, ask them to make red. Continue using the letters by adding and taking away cards until the children are ready for the final word. An example of how to begin a lesson follows.

Take two letters and make *in*.
Add a letter to make the three-letter word *pin*.
Change just one letter, and turn your *pin* into a *pig*.
Now change just one letter, and your *pig* can become a *rig* – sometimes we call a big truck a *rig*. (p. 110)

After adding letters and changing letters, the final six letter word is created by the students.

WRITING AND SPELLING

The following suggestions are from the CDE (1999) publication which notes that "reading and writing are closely related and mutually reinforcing. Through writing, students use language, think, learn, express themselves, and communicate information and ideas" (p. 57). Students in kindergarten need not be expert printers as "at this early stage of writing, it is important to support children's disposition to write rather than to require children to print perfectly formed letters or correctly spelled words before they are able" (p. 62).

- Children can write class books using patterns from storybooks with predictable patterns.
- Children "label the room, write signs, and use writing in social and other authentic ways" (p. 59).

- Children draw pictures of something special they have done that month in school. Write on the picture exactly what the child dictates.
- Children's writing muscles will be strengthened by playing with playdough, clay, and other such activities.

CKA (1995) recommends these activities to help children develop writing skills.

- Encourage children to use the classroom charts as they develop their independent writing.
- Have children label art work, write a daily journal, and write letters to classmates. Teachers should accept the writing as it is given, correcting by modeling and as requested by the children. As children begin to write words, teachers need to recognize that inventive or temporary spelling is a good assessment of the children's knowledge of phonics.
- Give children opportunities to write their own names. First options may include making the letters with clay or playdough or assembling the name with manipulative letters.
- Encourage participation in group-dictated stories by having the children brainstorm about a subject, then sequence the information. Retell an experience such as a field trip to the zoo, making cookies, or doing a science experiment.
- Use individual chalkboards which provide for practice in forming letters without fear of error. Have children trace letters over a model and additionally use a salt or sand tray.
- Use children's work with puppets, block play, science experiments, time lapse studies, dramatic play, and field trips as a focus for individual and group generated stories. Have the children reflect on their activities and dictate or write their statements.
- Provide opportunities for children to write, such as making number books and labeling pictures, writing in journals, and writing letters to classmates in order to encourage their development in hearing and recording sounds in words.

Meng (1998) suggests the following to encourage children to write letters as part of a post office unit.

- Have a mailbox in the room.
- Provide letter writing supplies such as envelopes, stationery, pens and pencils.
- Have readily available a list with the names of all the children in the class.

Gallagher (1997) refers to a post office unit described by Lillian Katz (1997).

- read post office theme-based stories
- visit the post office
- build a post office in the classroom
- include counters and mail boxes
- include something to use as a stamp machine
- write letters to classmates and relatives.
- make stamp sand money
- place stamps on envelopes
- write addresses
- cancel stamps on the letters
- find a wagon to use as a mail truck.

Morrow, Strickland, and Woo (1998) point out that journal writing is a form of written expression. Children should have journal writing opportunities so they can begin to use writing to express meaning about what they have learned.

- Tell children they will use their journals as authors and illustrators after they hear a reading from a theme-related book. Have them write about and illustrate something directly related to what was read.
- Have children collect their very-own words. (Very-own words are those that children wish to have and learn.) The teacher or one of the children writes the word on a 3 × 5 card, which is placed in a storage container, such as a plastic bag. The children practice the words, copy them, and use them in sentences.

Spelling

The CDE (1999) book recommends the following activities for spelling.

- Have children make individual dictionaries where they put words that are important to them.
- Provide activities such as writing in sand, embellishing letters in words children have written,

or using magnetic letters or alphabet cereal to focus attention on letters and spelling.

CKA (1993) advises that teachers recognize children's use of inventive spelling as their construction of phonics, i.e., of sound-symbol correspondences. CKA recommends following spelling activities.

- Provide opportunities for children to write using journal writing, labeling, letters to classmates for the class mail box, and letters to others.

Morrow, Strickland, and Woo (1998) also advise that as students "communicate with one another through writing.... they will see and use functional writing" (p. 143). The authors recommend the following activity.

- Create a bulletin board for notices. It should have areas for the students and the teacher. Children place their finished work on the bulletin board and also use it to leave written messages and to receive responses to their messages.

Wright (1998) recommends that, in order to facilitate a smooth transition from drawing to story writing, use of the following sequence is helpful.

- Children tell about their pictures and the teacher writes down what is said.
- Children trace letters the teacher has written.
- Children copy the letters from the teacher's printing.
- The teacher helps the children write part of the story. Children copy letters from a model until able to write the letters from memory.
- The teacher tells the children what letters to write as they begin to hear sounds, first beginning, then ending, and then middle. The teacher assists the children in hearing the sounds.
- Children independently write stories of the pictures with support as needed from the teacher. Teacher and others are able to read children's stories.

Interactive Writing

The book *Sharing the Pen—Interactive Writing with Young Children* (Collom, 1998) lists the following steps of interactive writing:

> Step 1: Negotiate a sentence. The teacher and students collaborate to write a meaningful text that can be read. The teacher has an active role in negotiating the text....By playing this active role, the teacher can incorporate the teaching of skills and writing conventions into the interactive writing lesson.
> Step 2: Count the words on fingers....one finger is held up for each word....
> Step 3: Recall the word to be written and stretch the sound....
> Step 4: Share the pen. A student volunteer uses the pen....to write part of the word or the whole word on the chart paper. Conventional spelling is used because one of the goals of interactive writing is to write a text which all can read.
> Step 5: Point and read....
> Step 6: Recall the entire sentence to be written, then go back to step 3.... The next word in the sentence becomes the new focus. (pp. 1-2)

Interactive writing may be conducted with the whole group, which includes explicit instruction and modeling; with small groups, where the teacher pulls out students to work on specific skills; and with pairs composed of teacher and student or student and student, where paired students with complementary strengths might write a story describing a book that the class has recently read. These forms of grouping stimulate varied interactions that have positive effects on children's motivation and success.

Through interactive writing the whole group, small groups, or pairs of writers may accomplish a variety of tasks.

- List making (grocery, things to do, names)
- Letter writing and cards to family and friends
- Notes and messages
- Sign making
- Invitations to parties
- Class rules
- Labels for the classroom
- Directions to make or do something
- Directions to get some place
- Recording information
- Writing paragraphs
- Comparing and contrasting information

- Recording opinions
- Brainstorming solutions to problems
- Evaluating
- Gathering practical or factual information
- Making story maps, webs, Venn diagrams
- Retelling a story
- Speech bubbles (p. 11)

The following interactive writing activity can be done with the whole class, small groups, and individuals. This activity is based on the favorite word of children—their name. "Their strong identity to their name creates a powerful, natural, and highly motivating learning tool" (Collom, 1998, p. 13).

- Construct a class graph using one inch graph paper, write each children's name (one letter to one square). Children are asked to help by giving the letters in their own names as the teacher writes the chart. Ask the group to count how many letters in each name. Have them find names that begin or end the same. Look for the longest and shortest names (p. 14).
- Establish word banks. After student names are interactively written on name cards, match the names with their photos. Used as a center activity, the name cards and photos can be placed in a pocket chart for children to independently match. Thematic words also lend themselves to similar word bank picture matching activities.
- Establish key word lists. As children engage in interactive writing, have them write and keep individual records of words that have personal meaning for them. These words, which often relate to classroom themes, could be kept in individual dictionaries.
- Establish attribute lists. Using interactive writing work with children to compile lists of words that describe various attributes of living and nonliving objects that are familiar to the children. This process will assist them in visualizing the objects more clearly, while it also contributes to building students' vocabularies. One example might be to describe a particular animal. A(n) ———is———.

The Weekly News can be enhanced by interactive writing. Following is an example from Collom (1998).

Once a week students share about things that are important to them such as "their family, their friends, things they do after school or on weekends, or things we do in class" (p. 29). In the beginning the teacher models the writing of the Weekly News by showing the children what and how to share, as well as doing all of the chart writing. Shared Writing comes next when children dictate what to write and perhaps help with spelling some of the words. Now they are ready for Interactive Writing, and students and teachers work as a team with students writing as much as they are able with help as needed. Smaller groups are used with Guided Writing where the teacher uses mini-lessons for specific skills and concepts. When ready, the students move to Independent Writing on their own or with classmates.

GENERAL LITERACY

Henriquez (1997) recommends the following to enhance Circle Time in relation to literacy:

- writing and reading messages on the board
- sharing experiences
- reading big and little books together
- pondering the contents of a 'surprise box' with clues written at home
- participating in music and exercise time (p. 42)

Henriquez also suggests the use of cross-age tutors as participants in emergent literacy programs. Cross-age tutoring "involves learning that is active as well as interactive and has a very high rate of time on task" (p. 43). The tutor models for the tutee. Tutor training can be offered after school in which the teacher models the teaching for the tutors. Tutors are given lists of specific skills their tutee needs. They are shown positive ways to reenforce the learning. Tutors are shown specific "examples of how to ask questions and predict ('Let's look at the cover. What do you think this story is about?' 'What happened at the beginning, middle, and end of the story?' 'Did this ever happen to you or anyone you know?'" (p. 44). Follow-up activities with props, puppets and games are also demonstrated for the tutors. Using role play the tutors practice with each other. Tutors come when it best fits their schedules...first thing in morning, recess, when others in their class are at

music or other electives.

- Prepare "story boxes on various themes, such as bears, insects, fairy tales, pond life, and dogs" (p. 45), for use with the cross- age tutors In each box are books and activities for the tutor and tutee, who go to a special spot to work together. They select a book from the box. Together they look at the cover to guess what the story is about. As the tutor reads the story aloud, he or she points to the words and discusses the story with the kindergartner "analyzing various parts, making sure the child understands the story, verifying the prediction, working on specific skills, and noting the beginning, middle, and end of the story" (p. 45). Children then might draw pictures of their favorite part of the story and talk about how the story relates to something in their own lives. Tutors label the pictures and write the accompanying dictation. When the lesson is finished "the tutor completes a running log, including information on the book read, the activity performed, the children's reaction to the story, and specific literacy skills stressed" (p. 45).

Meng, (1998) suggests literacy-related activities in which children play detective and also read the room.

- Letter detective – Children use clipboards to hunt for a designated letter. When the letter is found, they record the information on their clipboard.
- Word detective – Same as above except children look for words.
- Reading the room – Children read the room after selecting reading pointers. They walk about their room tracking the words with the pointer.

Faul (1996) provides rich literacy activities through her choice of the study of woodland animals as it "allowed children to become engaged in a literacy experience that built upon prior knowledge and nudged the learning process forward" (p. 48).

- First the teacher places a variety of books and magazines about woodland animals around the room where they are readily available to the children. Everyday one of the books is read to the class as a "source of pleasure and a source of information" (p. 48). Verbal and written expression, vocabulary and language fluency, and story sequencing are developed through talking about and acting out the books after they are read aloud. In addition to acting out stories, students may use puppets, make animals from dough and build homes for these animals using blocks.
- Reading both fiction and nonfiction books during a unit study helps children decide to which genre the story belongs. With fiction books, help children recognize characters, settings, problem; help them learn to form their opinions about the stories.
- Classification skills will develop during an animal theme study as children sort animal cards that the teacher has placed in a box "according to habitat or color or some other attribute" (p. 52).
- Art projects, such as murals, offer opportunities to develop "observation skills, awareness of likenesses and differences, classification skills, vocabulary growth, and phonemic awareness" (p. 52).

- The teacher, while leading a shared writing activity, writes on a large chart, and a child might dictate the following "I like the squirrel because he eats nuts'" (p. 52). The teacher talks as she writes the sentence on the chart. The following example shows what the teacher might say.

> When I write the word "I," do I use the lower case or the upper case?
> Can I start the word 'like' here
> (*right next to the I*) or do I leave a space?
> Nut—how do I write n-n-n
> (drawing out the sound)? (p. 52)

While this process continues, children develop vocabulary, observation skills and phonics skills.

Williams and Davis (1994) explore Cooking as a Literacy Event. The following activities show how cooking can contribute to literacy.

- reading a pictorially represented recipe chart
- measuring the ingredients
- labeling the ingredients
- following the recipe directions
- recalling the sequence of steps after the cooking is completed
- tasting the finished product

- writing a description of the finished product
- copying (or pretending to copy) the recipe to take home and share
- rereading printed copies of the recipe
- using print copies to find letters, sounds, and words

Using pumpkins as a focus, Williams and Davis demonstrate other food-related literacy activities.

- Pass around pumpkin seeds. Have the children feel them, discuss what they see and feel, and also investigate the properties of other seeds such as those from peaches, apples and oranges. Compare and contrast the seeds. Have children talk about the color size and texture of the seeds. After children discuss the fact that these are seeds, display the fruit they come from. Cut the fruit open so the children can see the seeds. Children guess how many seeds are in the pumpkin. The pumpkin is cut open and children feel the pulp and look for the seeds. The washed seeds are counted, then later toasted and eaten.
- Read a big book about pumpkins to the children. As the book is reread, the children look for the letter "p" and listen for its sound. After several rereadings the children fill in repeated words and discuss the pumpkin's growth pattern.
- Focus the children on the story and also any rhyming pattern and other features of the big book. Encourage the children to complete the rhymes and any frequently repeated words and phrases.
- Make jack-o-lanterns drawings with faces showing various emotions, and have the children write stories about pumpkins and seed planting. Children have opportunities to share their written work with others.

CKA in 1998 published a document on activities and learning strategies related to the California language arts standards. This document has been reprinted in Appendix B as an additional source of developmentally appropriate activities and learning strategies related to standards. Although written in relation to California standards, the material is relevant to other language arts standards and appropriate for all kindergartens.

Summary

This chapter has included activities and learning strategies that actively involve children and enable them to construct knowledge and skills involved in going from the oral to the written register and in the development of comprehension, phonological processing, writing, and spelling. The extent and variety of these activities and strategies will not only foster emergent literacy but also will develop positive attitudes toward school and learning. Books, dramatic play, explicit instruction of phonological processing, writing and inventive spelling experienced through developmentally appropriate activities and learning strategies do, indeed, make a difference in children's emergent literacy.

Chapter 7

Summary and Conclusion

This book has presented a review of research on the components of emergent literacy and related activities and learning strategies. The research on enabling children to go from the oral register to the written or literate register revealed the importance of reading to children and of family literacy programs. As a profession, we knew for many years that children who are read to tend to read well, but then we did not know why. Linguistic analyses and related research found significant differences between the oral and written registers that affect emergent literacy. By being exposed to the written register through experiences with books, young children become familiar with the linguistic cues that make connections or bonds between items in the text, as with the co-reference bond between a noun and pronoun. Research found a significant difference between middle SES and low SES children's ability to switch codes from the oral register to the literate register. Research also found significant differences in comprehension of text between children who were read to (mostly middle SES) and children who were not read to (mostly low SES).

Children's experiences with books need to include both narrative (stories) and expository (informational) texts. Teachers introduce and familiarize children with the different genres as they read stories and discuss the characters and events and as they read information books and discuss the concepts and vocabulary. Repeated readings of predictable texts invite children to partake of the literate register as they repeat parts they know and predict features of the text. Children's emergent literacy is also enhanced by shared reading, especially of the following kinds of texts: repetitive texts in which children repeat much of the text, texts in which children can identify text content in the pictures, and texts in which the major events are prominent.

Children's experiences with books build reading comprehension, including concepts of print, vocabulary, and the structure of narrative and expository texts. The concepts of print children gain from exposure to books include the format of books, the directionality of print, and the differences between print and pictures. Research has found a significant correlation between children's engagement in dramatic play and their later achievement on concepts of print tests. In dramatic play children engage in a representational process, using, for example, one object to stand for another and using representational words, such as *say* and *tell* in relation to dolls. Additionally, print enriched dramatic play settings not only increase children's concepts of print but also their knowledge of the functions of print.

Children's receptive vocabulary was positively related to family literacy environment. Repeated readings of books increases children's receptive and expressive vocabularies. The expressive vocabulary of low income children was especially helped by dialogic rereading of books in which parents and teachers interacted with children about the words and content. Adult interaction also enhanced children's comprehension of text structure, both narrative and expository. The dialogue increased children's understanding of story events and characters and their grasp of the meaning of informational concepts. Kindergarten children are capable of understanding both kinds of texts.

Children's understanding of text structure is also increased as a result of dramatic play. In story-related dramatic play, children repeat lines of the characters as they enact parts of a story, and through these enactments they gain increased understanding of story characters and events. In dramatic play areas such as the playhouse, farm, airport, etc., children enact expository content, and research indicates that adding literacy toys and props to these areas will enhance literacy development.

When children repeat rhyming and alliterative parts of stories, they are engaging in phonological processing, which is comprised of phonemic awareness and phonological recoding. Research studies have found a hierarchy of phonemic awareness skills from the easiest, rhyming and identifying the same initial consonant, to the hardest, initial consonant substitution, phoneme segmentation, and phoneme manipulation. Training studies on selected phonemic awareness skills have enabled children to gain these skills. Predictive studies regarding children's reading in later grades show an advantage of gaining phonemic awareness skills in kindergarten. The research evidence supports explicit teaching of phonemic awareness skills in kindergarten. However, the research also shows that children who lack phonemic awareness skills in kindergarten do become successful readers in later grades. The relations between phonemic awareness and beginning reading are interactive and reciprocal.

Phonological recoding involves letter identity, phonetic cue reading, orthographic analogies, and letter-sound correspondence. In phonetic cue reading children use the name of a letter or a beginning consonant from a known word to figure out another word. In the use of orthographic analogies, children use the spelling of part of a word they know, usually the rime, to figure out another word. When children begin to use letter-sound correspondences, they are using the alphabetic principle.

Research with three- to seven-year-old children found that knowledge of letter names increased with age. Children found it easier to name and print upper case than lower case letters. Other research found that knowing letter names enabled children to locate words in a line of text. In a training study of phoneme identity, kindergarten children were able to use their training of eight phoneme identities in phonetic cue reading. Research has found that children's ability to recognize rimes enabled them to read words by analogy. Analogy training based on onset-rime units had positive effects in relation to children's segmentation ability and letter-sound correspondence. The importance of the explicit teaching of letter-sound correspondences was demonstrated in research; however, research also indicates that such instruction can be successful in different formats. As the NRC report stressed, activities to teach letter identification and letter-sound correspondence to preschool and kindergarten children must be developmentally appropriate. The report also pointed out the following research finding: "Some evidence suggests that an environmental literacy or whole-language orientation in kindergarten is more effective than phonics-oriented instruction, particularly for children with low initial scores on knowledge of literacy conventions, including letter knowledge..." (p. 185). Phonological recoding instruction, as with phonemic awareness instruction, needs to be part of a whole reading program that includes adults reading to children, children reading, and dramatic play.

Additionally, the literacy program needs to include children writing. Children evidence an interest in writing early as shown by their scribbles, and from four to six years of age, they can be seen using a number of forms including scribbles, drawings as orthographic representations, nonphonemic strings of letters, and inventive spelling. Children's first use of inventive spelling is not considered to be an aspect of alphabetic reasoning. Two categories of inventive spelling are the syllabic, which is when children use one letter to represent a syllable, and full inventive spelling, which is when children use one letter to represent one phoneme. An intermediate category is when children's writing is in between the syllabic and full inventive spelling.

The settings in which children write also make a difference, with children producing more mature forms in a whole class lesson where they copy the forms and immature forms in a more informal one-on-one setting. Research also found that children's early writing efforts are attempts to write their own names and that, regardless of age, this writing is related to their knowledge of the alphabet. Thus, the mastery of writing forms does not develop linearly year by year. By age six, though, most children have mastered the written forms.

Kindergarten children understand that writing serves a variety of functions. They understand that writing is used to communicate with others, including an audience, and that writing is used for memory purposes. Studies show that children are more familiar with the narrative function than with the exposi-

tory and poetic functions. When writing materials are added to play areas, research has found that children learn more about the functions of writing. Research has also found that relatively few classrooms have enriched the play areas with related writing materials.

As preschool and kindergarten children engage in dictation and writing, they also engage in planning and monitoring what is written. These planning and monitoring behaviors are metacognitive acts. Research has found, however, that this emergent metacognition depends upon the context. For children to engage in this metacognition, they must have the opportunity to review, monitor, and edit text they have dictated or written, and, in dramatic play settings, they must have the proper materials, such as pencils, clipboards, etc. Research again has shown that dramatic play centers enriched with writing materials not only enhance children's emergent literacy but also their metacognitive development.

Young children's spellings indicate that they try to divide words into smaller units of sound. They spell one or more phonemes by the name of a letter that has the same sound (the letter *r* to spell /ar/). Research has shown that children's skill in inventive spelling is increased by phonemic awareness training. Invented spellings are children's attempts to form sound-symbol correspondences and offer insight into children's understanding of the sound system of their language prior to and during early reading instruction.

No longer is spelling thought of as a rote memorization task. Now spelling is thought of as a component of word study and is considered an integral part of reading and writing. This view of spelling is derived from a developmental framework that consists of six stages of spelling, four of which are in early childhood. These four stages are: prephonemic spelling, in which sounds are not connected to letters, and in writing children use scribbles, strings of random letters, pictures, and dots; semiphonemic spelling, in which children know the names of letters and realize that letters represent speech sounds; letter name spelling, in which children represent each sound with a letter; and the within-word pattern spelling, in which children experiment with more complex letter patterns, and they learn to spell consonant blends and digraphs. These stages are nonlinear rather than linear.

In the phonemic awareness training and spelling study referred to above, the training required active exploration and participation, which offered the children many opportunities to construct meaning about the internal structure of words. Children need to be actively involved in constructing knowledge and skills from activities and learning strategies that are developmentally appropriate. The activities and learning strategies presented in the last chapter meet these criteria and include recommended procedures for initiating family literacy programs and recommended activities and learning strategies for reading to children and developing their comprehension, phonolgocial processing, writing, and spelling knowledge and skills.

Graves, van den Broek and Taylor (1996) state that classroom instruction must be grounded in research, including research that indicates that "there are many paths to successful reading and hence many paths to successful reading instruction....readers not only can fail to accomplish literacy for many different reasons, but also can succeed for different reasons" (p. 193). We have presented reviews of research related to emergent literacy for children four to six years of age so that those planning literacy programs for children in this age span will have the related research as a guide. We also offer the cumulative conclusion of each chapter of this book as a further guide:

Books, dramatic play, explicit instruction of phonological processing, writing and inventive spelling experienced through developmentally appropriate activities and learning strategies do, indeed, make a difference in children's emergent literacy.

Appendix A

Addresses of Professional Organizations for Emergent Literacy Publications

Recommended by D. R. Brock and E. L. Dodd

American Library Association
50 E. Huron Street
Chicago, IL 60611

International Reading Association
800 Barksdale Road
Newark, DE 19714

National Association for the
Education of Young Children
1509 16th Street, N.W.
Washington, DC 20036-1426

Reading Is Fundamental, Inc.
P. O. Box 23444
Washington, DC 20026

Appendix B

Although this document was written in relation to the California Standards for Language Arts at the Kindergarten Level, the activities are relevant to other language arts standards and appropriate for all kindergartens.

Activities and Learning Strategies Related to the California Standards for Language Arts at the Kindergarten Level

The Academic Content and Performance Standards represent a framework for teaching Language Arts in the State of California to ensure that all children have the opportunity to learn to read. This document identifies a wide range of activities and learning strategies that address each strand of the Standards and have been used successfully by teachers in California.

1. Word Analysis, Fluency and Systematic Vocabulary Development. Students know about letters, words and sounds and apply their knowledge in reading simple sentences.

Concepts about Print

Visual perception - seeing likenesses and differences in letters and word forms, and recognizing how sounds are represented in print.

1.1 Identify the front cover, back cover and title page of a book.

- Use big books with the entire class to discuss the front and back cover and title page of a book.
- Select favorite books for read-alouds.
- Talk about authors and illustrators listed on the title page.
- Have students role play the part of their favorite author.
- Have children write letters to the author of a series of books they have experienced.
- Have children share books with other children or the entire class.

1.2 Follow words from left to right and top to bottom of a printed page.

- Place a colored dot on the upper left-hand side of the page to indicate where to start reading.
- Use language experience stories, and group writing experiences to teach page arrangement and directionality.
- Use a line guide or card to cover the words already read.

1.3 Explain that printed materials provide information.

- Label work and storage areas, block building structures, playhouse and dramatic play areas.
- Use old catalogues and advertisements to find letters and words with pictures to make lists and catagorize information.
- List birthdays, chores and daily activities.
- Make cards with students' pictures on them. Make name cards for each child.
- Use cards (above) for a variety of activities, ie. graphing, alphabetizing order, labeling work,

1.4 Recognize that sentences in print are made up of separate words.

- Write children's dictated words in a daily classroom *newspaper*.
- Write two copies of sentences on sentence strips. Cut one into words. Have children use the words and construct the sentence from the model.
- Provide word cards for children to generate sentences on a table.
- Write the same sentence on two sentence strips. Cut one into words. Give each child a word. Have the children arrange the words into sentence order. First with, then without modeling.
- Use finger or tongue depressor to emphasize separation of words.

1.5 Distinguish letters from words

☛ Have children make letters using plasticene clay over printed models.

☛ Have children cut letters from magazines and paste into words.

☛ Have children cut words from magazines and paste into lists or categories.

☛ Find and match letters in a text. Find and match words in a text. Lastly, discuss the differences among letters and words.

☛ Identify letters in print using newspaper and advertising flyers.

☛ Sort magnetic, felt, alpha cereal or pasta, or other three-dimensional letters.

☛ Teacher provides writing experiences with appropriate motivational materials such as stationery, envelopes, pretend stamps, letter stamps, blank books, typewriter, etc.

1.6 Recognize and name all lower and upper case letters.

☛ Use magnetic, felt, and rubber stamp letters with both lower and upper case.

☛ Make a game having the children match lower and upper case letters.

☛ Display both lower and upper case letters.

Phonemic Awareness

Children learn to notice auditory likenesses and differences in sounds such as rhyming, beginning and ending of words. Listening skills improve reading skills.

1.7 Track (move sequentially from sound to sound) and represent the number, sameness //difference and order of two or three isolated phonemes (e.g. /f,s,th/, /],d,]/)

☛ Have children listen when you say a child's name. Substitute a different name.

☛ Have children listen to stories that emphasize alliteration.

☛ Have children listen to stories that emphasize rhyme.

☛ Have children listen, identify and match similar beginning and ending of words.

☛ Provide mirrors so that each child can notice the tongue, teeth and lips placement and the shape of the mouth when making isolated sounds.

1.8 Track (move sequentially from sound to sound) and represent the number, sameness / difference, and order of two and three sounds (vowel-consonant, consonant-vowel, or consonant-vowel-consonant) as one sound is added, substituted, omitted, shifted or repeated.

☛ Have each child hold a picture card. Limit the number of beginning sound differences. Teacher targets a sound. Children who have the picture with the beginning targeted sound will stand.

☛ Construct lists of words of consonant-vowel-consonant families (rimes).

☛ Use three cubes. Put beginning consonants on one, vowels on the second and ending consonants on the third. Use to construct and change words.

☛ Have children delete the first sound of a word, say the remaining part of the word, then add another beginning sound. *ie. bat, at, cat.*

1.9 Blend vowel-consonant sounds orally to make words or syllables.

☛ Add beginning sounds to make words. Add consonant sounds to -at, -it, -ot, -ut, -et; -up, -ip, -ap, -ep, -op; -on, -in, -an, -en.

☛ Use flip books and word wheels to construct words.

☛ Play a concentration game with picture cards that rhyme.

☛ Place three picture cards in a pocket chart. Have children find the two that rhyme.

☛ Say three words. Have children listen and choose two words that rhyme.

1.10 Identify and produce rhyming words in response to spoken words.

☛ Distribute consonant letters to group. Have each child use his/her letter as a beginning sound to change a consonant-vowel-consonant word. eg. Say "up." Children will reply "cup," "tup," "rup," etc. depending on the letter they are holding.

1.11 Distinguish orally stated one-syllable words into beginning or ending sounds.

☛ Sing "Eency, Weency Spider," "Bibbidy, Bobbidy, Boo," and substitute different sounds at the beginning of the words.

☛ Target a letter sound and have children indicate if it is at the beginning, middle or end of a word.

☛ Cut the tops off three milk cartons and join them together. Label "Beginning", "Middle" "Ending. Have children put the targeted letter in the appropriate box.

1.12 Track auditorily each word in a sentence and each syllable in a word.

☛ Print charts of songs and poems. Sing and chant along using a pointer.

☛ Have two groups and do choral reading with responses:

1. I went walking. 2. What did you see?
   I saw a pig. What did you do?
   I fed the pig. What did you feed him?
   I fed him corn.

1.13 Count the number of syllables in a word and sounds in syllables.

☛ Have children clap syllables, or use rhythm instruments and tap syllables.

☛ Clap out the rhythm to familiar songs, and have children guess the words. Then have each child clap a song.

☛ Use cubes to represent syllables.

Decoding and Word Recognition

1.14 Match all consonant and short vowel sounds to appropriate letters

☛ Sort picture cards with words according to a consonant or vowel sound.

☛ Sort a group of words with three letters according to the medial vowel sound.

☛ Sort words according to the initial letter; according to the ending letter.

☛ Have children bring in real world objects to match sounds and letters.

1.15 Use simple one-syllable and high frequency (sight) words).

☛ Make and use flip books.

☛ Use simple one-syllable high frequency words in a daily journal.

☛ Use one-syllable words in riddles.

☛ Use c-v and c-v-v words to note long vowel sounds such as go, no, ho, hi; day, say, toe, bee, see, pie, tie.

1.16 Understand that as letters of words change, so do the sounds (alphabetic principle).

☛ Have a word-family race. Divide class into two teams and use a list of words with the same endings. Say an ending such as "-at." Each child says a word in that family and points to it on the list.

☛ Use flip books, word wheels and T-scopes to practice word families.

☛ Replace one letter of a word in a pocket chart to discover a new word.

Vocabulary and Concept Development

1.17 Identify and sort common words from basic categories (e.g. colors, shapes,foods)

- Sort names of classmates. Find a name in a stack of words.
- Create word banks for different units of study, e.g. animals, home, food.
- Go on a word hunt for particular words in the room, the school, or the community.
- Brainstorm for words about a concept: What is it? What are its parts? What are its qualities? Where can it be found?
- Display a series of pictures and have children guess the category.

1.18 Describe common objects and events in both general and specific language

- Mystery Box - give clues and have children guess what is in the box. Have children generate questions that can be answered and lead to the solution.
- Have children draw what's in a box and tell about it.
- In a small group place an object in each child's hand to describe and identify. Have the child tell where can it be used.
- Have children sit in a circle. Put an object in each child's hand behind his/her back. Have each child tell how it feels and what can be done with it?
- Have children make motions and describe what they are doing.
- Directed Drawing - Have children follow directions to draw a picture.
- Have child verbalize mime actions.
- Using a real object each child adds an attribute. Using a potato one says "brown", the next says "brown and lumpy", then, "brown, lumpy and hard", etc.

Comprehension and Analysis of Grade Level Appropriate Text

2.1 Use pictures and context to make predictions about story content

- Make a theme related book. Have children draw pictures about a subject and either dictate or write the story using phonetic spelling.
- Discuss pictures before reading a story to encourage specific vocabulary.
- As a story is read, stop and let the children supply the next word, or predict what will happen next.
- Have children predict what happens next or the ending of the story.

2.2 Connect information and events in texts to life experiences

- Choose real life stories to which children can relate such as Alexander and the Horrible, No Good, Very Bad Day.
- Have children contribute to class books about language experiences based on common class experiences such as a field trip, assemblies, videos, films. etc.
- Plan an event or a field trip to a place memtioned in a story.
- Have children use books at library about specific topics.

2.3 Retell familiar stories

- Pantomime a story as it is reread.
- Dramatize or role play to retell a story.
- Have partners retell each other a story.
- Make storyboards to retell a story.
- Use class newspaper to tell a story.
- Assign children to draw and tell about events of a story.

2.4 Ask and answer questions about essential elements of text.

- Have a child pantomime a character and have the class guess who it is.
- "Hot Seat" A child sitting in a chair is a character from a book. Other children ask questions and the child answers as the character might.
- Make a mural to show characters, setting and sequence of a story.
- List characteristics of the characters.
- Use riddles to guess the character, place or event of a story.
- Draw or paint a story map to tell about the setting of a story.
- Use pictures to tell or retell a story by sequencing.
- Use sentence cards to retell a story.
- Use wordless books. Have the children tell the story. Then write dictated words.

Narrative Analysis of Grade Level Appropriate Text

3.1 Distinguish fantasy from realistic text

- Compare and contrast fiction and fantasy stories of a particular subject such as bears, nature, cars and houses.
- Compare and contrast different versions of the same story. Make a Venn diagram of the characters to show how they are the same or different.
- Make charts comparing the same story by different authors and illustrators.

3.2 Identify different text genres, including everyday print materials such as storybooks, poems, newspapers, signs and labels.

- Bring in objects and environment print. eg. MacDonald's box or cup, cereal boxes, junk mail, magazines, wrapping paper.
- Use advertisements and catalogues to show labeled pictures.
- Walk through the neighborhood using notepaper to copy words and letters found in the environment.
- Use crayons to make rubbings of license plates, manhole covers, or sidewalk designs where raised print is used.

3.3 Identify character, settings and key events

- Identify elements of a story that is read.
- Have children build from blocks the setting of the story.
- Provide clothes and props in a dramatic play center to role play the characters.
- Make charts with pictures to depict characters, settings and events of a story.
- Have children draw about characters, settings and events of a story.
- Have children plan and perform the story for their or another class.

Writing Strategies: Students write words and brief sentences that are legible. Organization and Focus:

1.1 Use letters and phonetically spelled words to write about experiences, stories, people, objects or events.

- After experiences such as having a visitor to the classroom, students can write thank you notes.
- After a field trip students can draw about what they remember or especially liked and dictate the words. Then they can copy the words to go with their picture.

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☛ Daily journal writing with adult responses is an excellent way to encourage students to write.

1.2 Write using consonant-vowel-consonant words (demonstrate the alphabetic principle).

☛ Teacher verbalizes while writing class newspaper or language experience.

☛ As students become familiar with the purpose of writing and are phonemically aware of the sounds of language and the forms of the letters, they will begin to write the words as they hear and think them.

☛ Have children verbalize as they write.

1.3 Write using a left-to-right, top-to-bottom progression

☛ Put a colored dot in the upper left-hand corner of the paper to remind the learners where writing starts.

☛ Students participate with teacher while writing a group message.

☛ Have students use magnetic letters on cookie sheets, felt letters on felt board, wikki sticks or pipestem cleaners to make letters and words.

☛ Use thin tracing paper to trace over a model of letters or words.

☛ In the beginning phase of writing, words can be written in yellow and traced by the child with pencil.

Penmanship

1.4 Write uppercase and lowercase letters independently, attending to form and spatial alignment

☛ Make a colored dot where the letters start to help students make the letters.

☛ Use plasticene clay over a model of the letters placed under a plastic cover.

☛ Sand, salt, cornmeal, or shaving cream trays are helpful in learning to write the letters of the alphabet.

☛ Beaded, hardened white glue or sand paper letters are good for practicing letters. Indicate where to start the letters.

☛ For children who have difficulty with reversals of letters, trace the letter on their back while they write it on the chalkboard.

☛ Trace over a model of the words to be written which are placed under a plastic cover or in a plastic sleeve. With a grease pencil or crayon trace over the model. It can be removed easily for another use.

☛ Use chalk or white boards which can be erased and leave no history of errors for beginning writing letters.

☛ Write shopping lists using words from a grocery advertisment.

☛ Using the overhead projecter project words onto chalkboard or paper to trace.

1. Listening and Speaking Strategies: Students listen and respond to oral communications and speak in clear and coherent sentences.

1.1 Understand and follow one- and two-step oral directions. Comprehension:

☛ Have the child turn to a neighbor and repeat the teacher's directions.

☛ Have children use play dough, puppets and storymasks to represent the characters and retell a story.

☛ Have children draw in response to directions.

☛ Have children build with blocks in response to directions.

☛ Have children do movements in response to directions such as in *Simon Says*, and *Did You ever see a Lassie?*

☛ Gossip - Have children in a circle whisper two directions to first child who will whisper to next child and so on until the directions come back to the leader.

1.2 Share information , opinions and questions, speaking audibly in coherent, complete sentences. Recitation.
Narrative (short stories; biographical / autobiographical) Expository (description, cause and effect; problem-solution, summaries; research reports)

☛ Use collections of small objects which can be catagorized by beginning sounds, as things that rhyme, things that go, etc. as a stimulus for language experiences and to share information.

☛ Use frame sentences for labeling to develop the child's ability to use complete sentences. "This is a _____." It is used for ____", "It might be found_____."

☛ Select two or more objects that might go together and tell about them.

☛ Put several objects into a small area. Cover and remove one object. Have children tell about the one that is missing.

☛ Pass out objects to all the children. One child has an empty basket. S/he must describe one of the objects and trade the empty basket for that object. The child with the basket continues the game.

☛ Have children sit in circle with their hands behind them. Pass out objects and have them guess using descriptive words.

Oral and Written English language conventions: Students use knowledge of standard English conventions in their oral and written work.
1.1 Sentence Structure: recognize and use complete and coherent sentences when speaking.

☛ Practice speaking in complete sentences using jazz chants.

☛ Have a child tell about a picture using complete sentences.

☛ Have students relate information about a trip and respond to questions using complete sentences.

☛ Use frame sentences to practice using complete sentences.

1.2 Spelling: use phonetic knowledge and sounds of the alphabet to spell independently.

☛ Have children make daily additions to their journals. Respond to their work by using words you want them to practice.

☛ Encourage children to use words and letters which they have practiced.

☛ Have students write notes to other students about a story or game that they like to read or play.

☛ Have children "share a pen" with the teacher to record on a large chart.

☛ Have each child record individual choices on a class graph.

☛ Have children brainstorm about a subject to develop their ideas and vocabulary.

2. Speaking Applications: Students deliver brief recitations and oral presentations about familiar experiences or interests, demonstrating command of the organizational and delivery strategies outlined in Listening and Speaking Standard 1.
2.1 Describe people, places, things, location, size, color, shape and action.

☛ Visit community helpers and places. Draw and write about the experiences.

☛ Create a "role playing" center where children act out their experiences.

☛ Have a student describe someone in the circle. Have the others guess who it is.

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☛ Have a student describe something and let the other students draw and then tell what they think it is.

☛ Have children predict what happens next or the ending of a story to involve thinking to develop comprehension skills.

2.2 Recite short poems, rhymes and songs

☛ Learn nursery rhymes and have the children take turns with the character parts while the others chant the rhymes.

☛ Sing songs and chant rhymes using hand and body movements.

☛ Compare rhymes, poems and songs of other countries.

2.3 Relate an experience or creative story in a logical sequence.

☛ Have children draw, dictate or write the words for a story or experience in sequence.

☛ Have students reorganize mixed-up pictures.

☛ Retell stories such as *The Little Red Hen*, *Rosie's Walk*, and others to emphasize sequencing.

☛ Use recipes to develop the importance of sequence.

☛ Have children dramatize the sequence of a story with or without props.

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The Mission of CKA...

is directed toward and committed to facilitating quality education for all kindergarten children through:

- promoting the value and importance of kindergarten
- providing and encouraging leadership in kindergarten
- advancing the professionalism of kindergarten teachers
- promoting understanding of how children learn and develop
- assisting in the development and implementation of appropriate environment and curricula to meet the diverse needs of young children in our pluralistic society
- reviewing trends and issues, and disseminating research in early childhood education
- promoting communication among teachers, administrators, parents, policy-makers, legislators and others interested in early childhood education
- fostering public awareness of quality primary education for a diverse student population

To these ends, CKA plans, organizes, implements, and evaluates activities and resources related to its mission.

This book on emergent literacy is for early childhood teachers, reading specialists, administrators, university and college professors, and students in teacher education courses. The focus of the book is on children four and five years of age who are in kindergarten and preschool.

After an explanation of literacy requiring a change from the oral to the written register, the authors review research on register, reading comprehension, phonological processing, and writing. A later chapter includes recommended activities and learning strategies.

As a result of the research review, the authors conclude: *Books, dramatic play, explicit instruction of phonological processing, writing and inventive spelling experienced through developmentally appropriate activities and learning strategies do, indeed, make a difference in children's emergent literacy.*

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